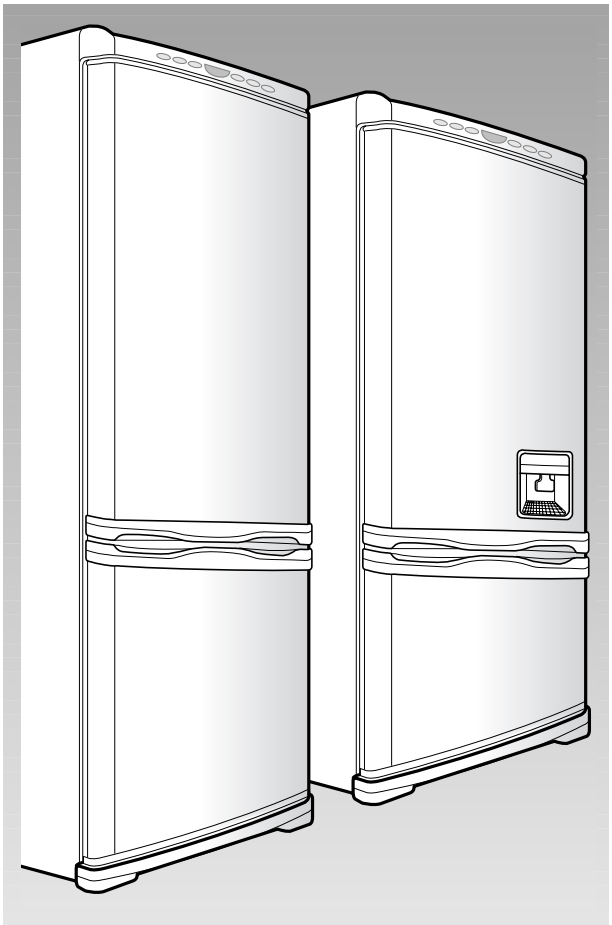
FREEZER/REFRIGERATOR

Model : SRL3928B(A)/39WEB(A)
SRL3926B(A)/39NEB(A)
SRL3916B(A)/39NMB(A)
SRL3626B(A)/36NEB(A)
SRL3616B(A)/36NMB(A)

HFC FREE
GREEN

SERVICE Manual

FREEZER / REFRIGERATOR



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1. Precautions

Warning : Please abide by the following precautions in order to conduct the maintenance procedures in a safety fashion.

Cleaning : After completing repairs, clean the surrounding area and the refrigerator and tell the consumer about the repairs being made.

1-1. Caution when you replacing compressor.

- Do not smoke. Remove all the possible ignition sources and then replace compressor in well-aired places.
- Don't use welding machines if R600a refrigerant does not exposed.
- In the case of gas leakage, always open the windows.
- When cutting the SUCTION, DISCHARGE pipe of the compressor, always take caution of the inner pressure of the remaining gas.

1-2. Take out the power plug

- Always take out the power plug from the outlet when doing repairs.

1-3. Be careful of electric shocks

- When inspecting the circuit, don't touch the battery charger and be careful of electric shocks.

1-4. Use proper components

- Always use the component labeled in the service component chart when replacing components for repairs.

1-5. Use proper tools

- Always use proper tools for repairs. If worn out tools are used, it would cause defects in tuning and electrical contact, leading to accidents.

1-6. When doing repairs, inspect the **POWER CORD** or whether there is fire in the lead wire and make sure they are replaced.

1-7. Cutting of LEAD-WIRE

- For connecting the lead-wire that has been cut off, use soldering or connector and always disconnect the vinyl tapes.

1-8. Check for disconnection

- After completing the assembly, always measure the disconnection resistance level, and turn on the power after checking it is above 1MΩ.

1-9. Earth

- Check the status of earthing and repair the incomplete ones.

1-10. Be careful of children

- There is always the possibility of danger when doing repairs so make sure that children can't come nearby.

This appliance contains a small amount of the refrigerant isobutane(R600a), a natural gas with high environmental compatibility but which is also combustible. When transporting and installing the appliance, care should be taken to ensure that no parts of the refrigerating circuit are damaged. Refrigerant squirting out of the pipes could ignite or cause an eye injury. If damage occurs nevertheless, avoid any flames or potential sources of ignition, and air the room in which the appliance is standing for several minutes.

- In order to avoid the creation of a flammable gas-air mixture if a leak in the refrigerating circuit occurs, the size of the room in which the appliance may be sited depends upon the amount of refrigerant used. The room must be 1m^3 in size for every 8 g of refrigerant R600a inside the appliance. The amount of refrigerant contained in your particular appliance is shown on the identification plate inside the appliance.
- Never start up an appliance showing any signs damage. If in doubt, consult your dealer.

	Refers to prohibition.
	Refers to prohibition of dismantling.
	Refers to prohibition of contact.
	Refers to guidelines which have to be followed.
	Refers to detaching the power plug from the outlet.
	Refers to earth connection for preventing electric shocks.

Warning	Refers to possibility of death or serious injury of a person.
Caution	Refers to possibility of injury of a person or damage to property.

2. Product Specifications

Model			SR-L3928B(A) SR-L39WEB(A)	SR-L3926B(A) SR-L39NEB(A) SR-L3626B(A) SR-L36NEB(A)	SR-L3916B(A) SR-L39NMB(A) SR-L3616B(A) SR-L36NMB(A)
Capacity (ISO)	Net (Liter)	Total	345	350/325	350/325
		Freezer	104	104/104	104/104
		Refrigerator	241	246/221	246/221
Dimension	Width(mm)		595	595	595
	Depth(mm)	Recessed type	631	631	631
		Bar type	663	663	663
	Height(mm)		1920	1920/1820	1920/1820
Net weight (kg)			76	76/73	76/73
Cooling technology			No-frost	No-frost	No-frost
Freezer performance			★★★★ (4-STAR)	★★★★ (4-STAR)	★★★★ (4-STAR)
Control&Display	Temperature control type		Electronic	Electronic	Semi electronic
	Temperature display type		Digital	Digital	LED
Function	Power off		○	○	○
	Super Freezer		○	○	×
	VAC		○	○	×
	ECO		○	○	×
	Alarming display for power failure		○	○	×
	Alarming melody for door open		○	○	×
REFRIGERATOR COMPARTMENT					
Water dispenser(4.2L/Child lock)			○	×	×
Shelf	Tempered glass shelf		Optional	Optional	Optional
	Transparent plastic		Optional	Optional	Optional
Vegetable/Salad bin(Moisture controller)			2	2	2
Interior lamp	Incandescent lamp		Optional	Optional	○
	Fluorescent lamp		Optional	Optional	×
Door storage	Can-carry		Optional	Optional	Optional
	Door pocket	Transparent/White	Optional	Optional	Optional
		Dairy pocket	1EA	1EA	1EA
		Deep bottle storage	1EA	1EA	1EA
		Egg tray	1EA	1EA	1EA
FREEZER COMPARTMENT					
Drawer	Transparent / White		Optional	Optional	Optional
Ice tray	Twist / Normal tray(2EA)		Optional	Optional	Optional
Blowing agent			Cyclo Pentane	Cyclo Pentane	Cyclo Pentane
Refrigerant			R600a(65g) / R134a(155g)		

3. Electrical part specification & standard

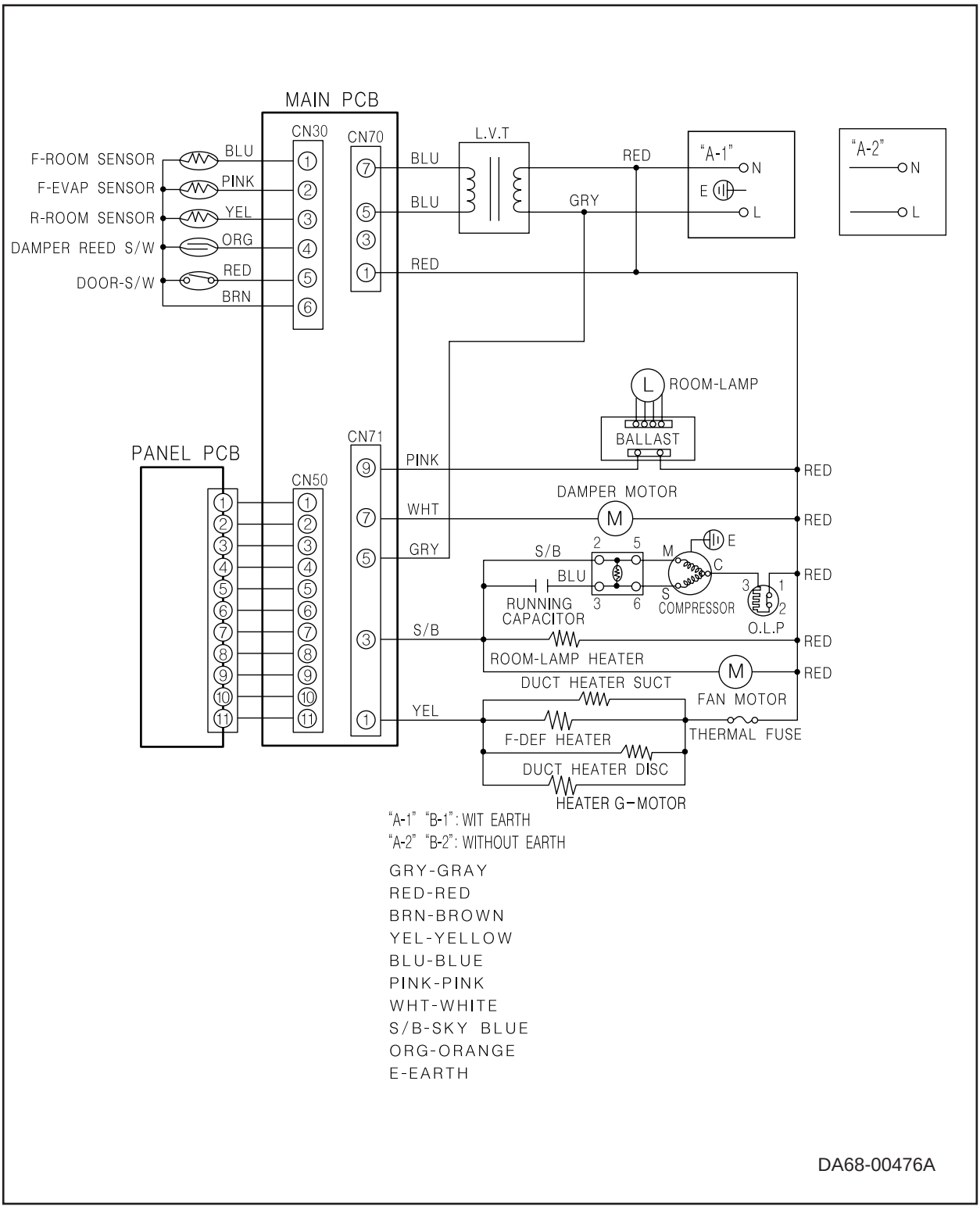
ITEM			STANDARDS			
Model			SR-L3928B(A)/L39WEB(A), SR-L3926B(A)/L39NMB(A) SR-L3916B(A)/L39NMB(A), SR-L3626B(A)/L36NEB(A) SR-L3616B(A)/L36NMB(A)			
Power source			230-240V/50Hz	230V/50Hz	220V/50Hz	127V/60Hz
Refrigeration cycle	Compressor	Model	DK4A1Q-L1U (R600a)	DK172Q-L2U (R134a)		DK172P-L2U (R134a)
		starting type	R.S.C.R			
		Oil charging	SUNISO-2GSD/265cc	FREOL α15c/265cc		
	Evaporator		Split fin.Tube Type			
	Condenser		Natural Convection Type			
	Dryer		Molecular Sieve XH-9			
	Capilary tube		I.D 0.75 × L4,000mm			
Electrical parts	Sensor	Freezer	502AT			
		Refrigerator	502AT			
		Defrost	502AT			
		Room TEMP.	502AT			
	Heater	Defrost	310W/240V		310W/220V	310W/127V
		Lamp	2W/240V		2W/220V	2W/127V
			For Only Fluorescent Lamp			
		Disc-Duct	7W/240V		7W/220V	7W/127V
		Suct-Duct	15W/240V		15W/220V	15W/127V
		Cover-EVAP,RE	7W/240V		7W/220V	7W/127V
	Fuse	Defrost	250V/10A, 72±4℃			
	Defrosting	Defrost Time	6~19hr(Vary According To The Environmental Conditions)			
			4hr±10min(At The First Operating Cycle)			
		Rest Time	7min±2min			
	Capacity	Running	350VAC/3.5μF	350VAC/5μF		250VAC/12μF
	Over-Load Protector	Model	4TM213PHBYY-53	4TM232SHBYY-53		4TM435PHBYY -53
		On Temp	69℃	69℃		69℃
		Off Temp	125℃	135℃		125℃
	PTC-Relay	Model	J531Q35E330M385-2			J531Q33E100M200-2
		Resistance	33Ω ± 20%			10Ω ± 20%
	Lamp		OSLAM DELUX S/E11W(Fluorescent Lamp)			
		Refrigerator	KE257024025(240V/25W) (Incandescent Lamp)			(130V/25W) (Incandescent Lamp)
	Damper(Geared)-motor	Freezer	220~240VAC, 50/60Hz MN71MNBA6(M2LA49Z)			110VAC, 50/60Hz JX71MLBA6
	Door Switch		H3005CL, 250VAC/25W			
	Motor Fan	Freezer	IS3210-SNL5C		IS3210SNF7F	IS3210SNP6C

4. Setting Temperature of the Fridge/Freezer

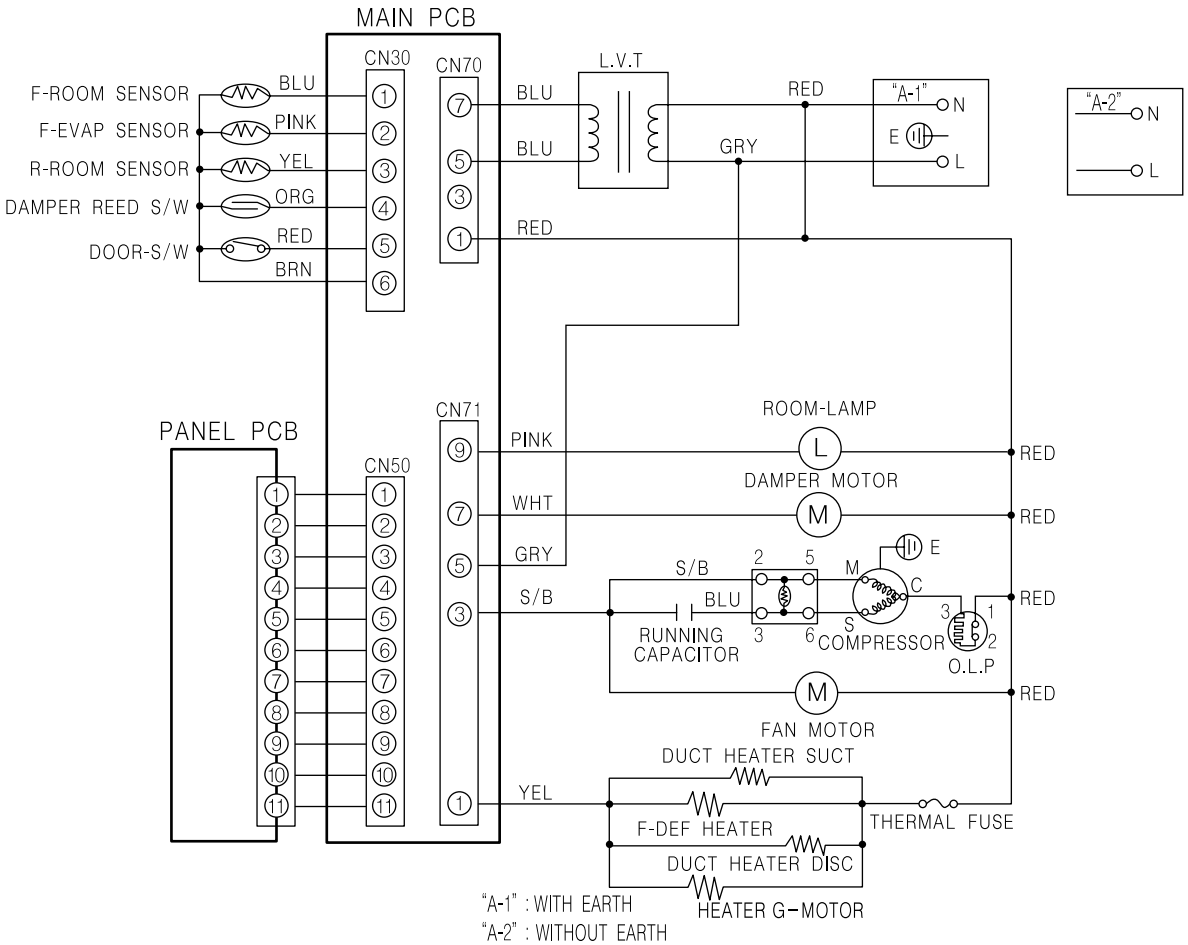
ITEM				ELECTRONIC		SEMI-ELECTRONIC	
				SR-L3928B(A)/L39WEB(A) SR-L3926B(A)/L39NEB(A) SR-L3626B(A)/L36NEB(A)		SR-L3916B(A)/L39NMB(A) SR-L3616B(A)/L36NMB(A)	
Temperature	Freezer	Type	Type	ON(℃)	OFF(℃)	ON(℃)	OFF(℃)
		F-Sensor	Warm	-14℃	-20℃	-14℃	-20℃
						-15℃	-21℃
			Normal	-18℃	-24℃	-17℃	-23℃
			Cold	-22℃	-28℃	-20℃	-26℃
						-22℃	-28℃
	Refrigerator	Type	Type	ON(℃)	OFF(℃)	ON(℃)	OFF(℃)
		F-Sensor	Warm	6.5℃	5.5℃	6.5℃	5.5℃
						5.5℃	4.5℃
			Normal	4.5℃	3.5℃	4.5℃	3.5℃
			Cold	1.5℃	0.5℃	3.5℃	2.5℃
						2.5℃	1.5℃

5. Circuit Diagram

5-1. ELECTRONIC MODEL(SR-L3928B(A)/L39WEB(A)/ SR-L3926B(A)/L39NEB(A)) for Fluorescent Lamp Option



5-2. ELECTRONIC MODEL (SR-L3928B(A)/L39WEB(A)/L3926B(A)/L39NEB(A)/ SR-L3626B(A)/L36NEB(A)) for Incandescent Lamp Option



"A-1" : WITH EARTH
"A-2" : WITHOUT EARTH

GRY-GRAY
RED-RED
BRN-BROWN
YEL-YELLOW
BLU-BLUE
PINK-PINK
WHT-WHITE
S/B-SKY BLUE
ORG-ORANGE
E-EARTH

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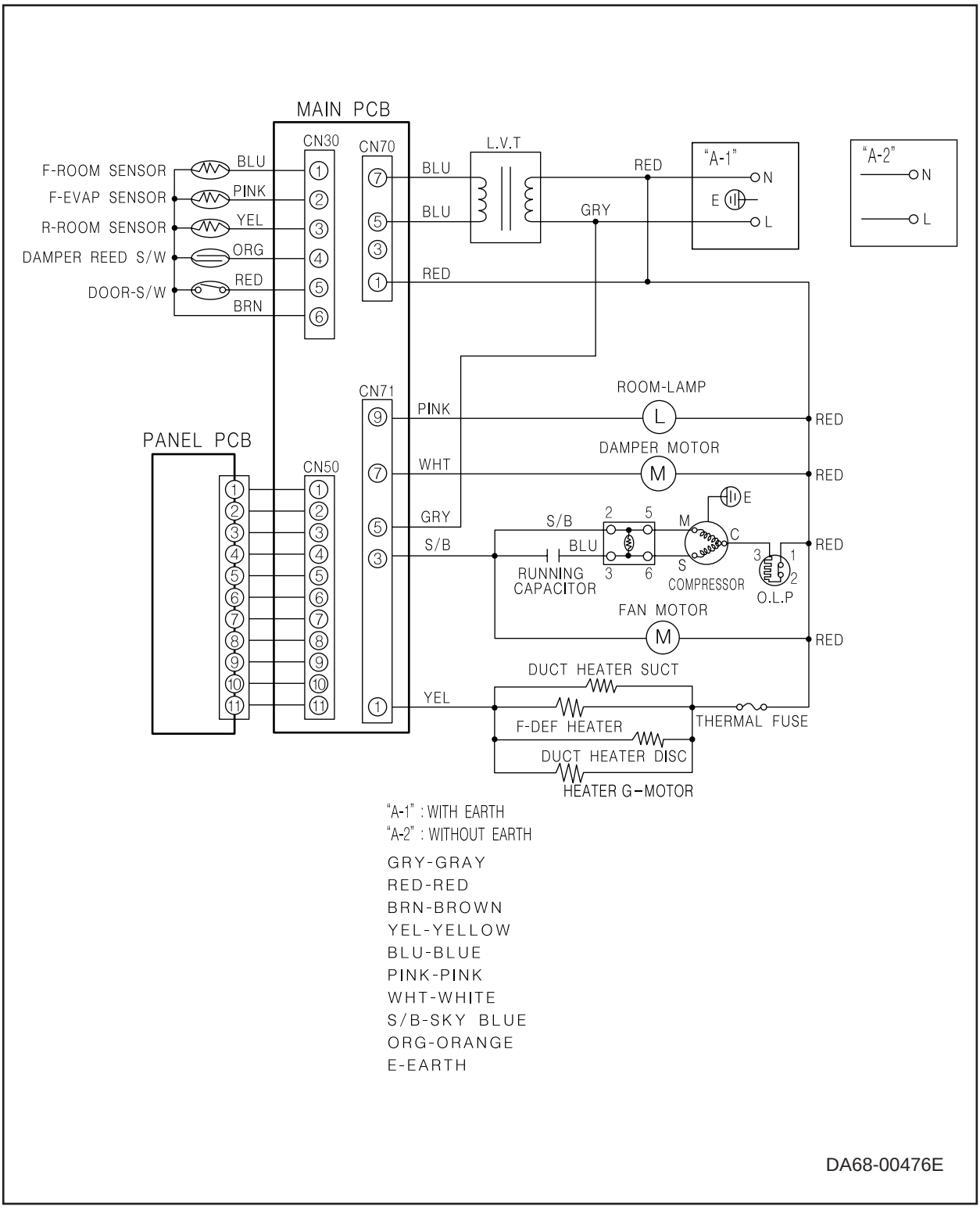
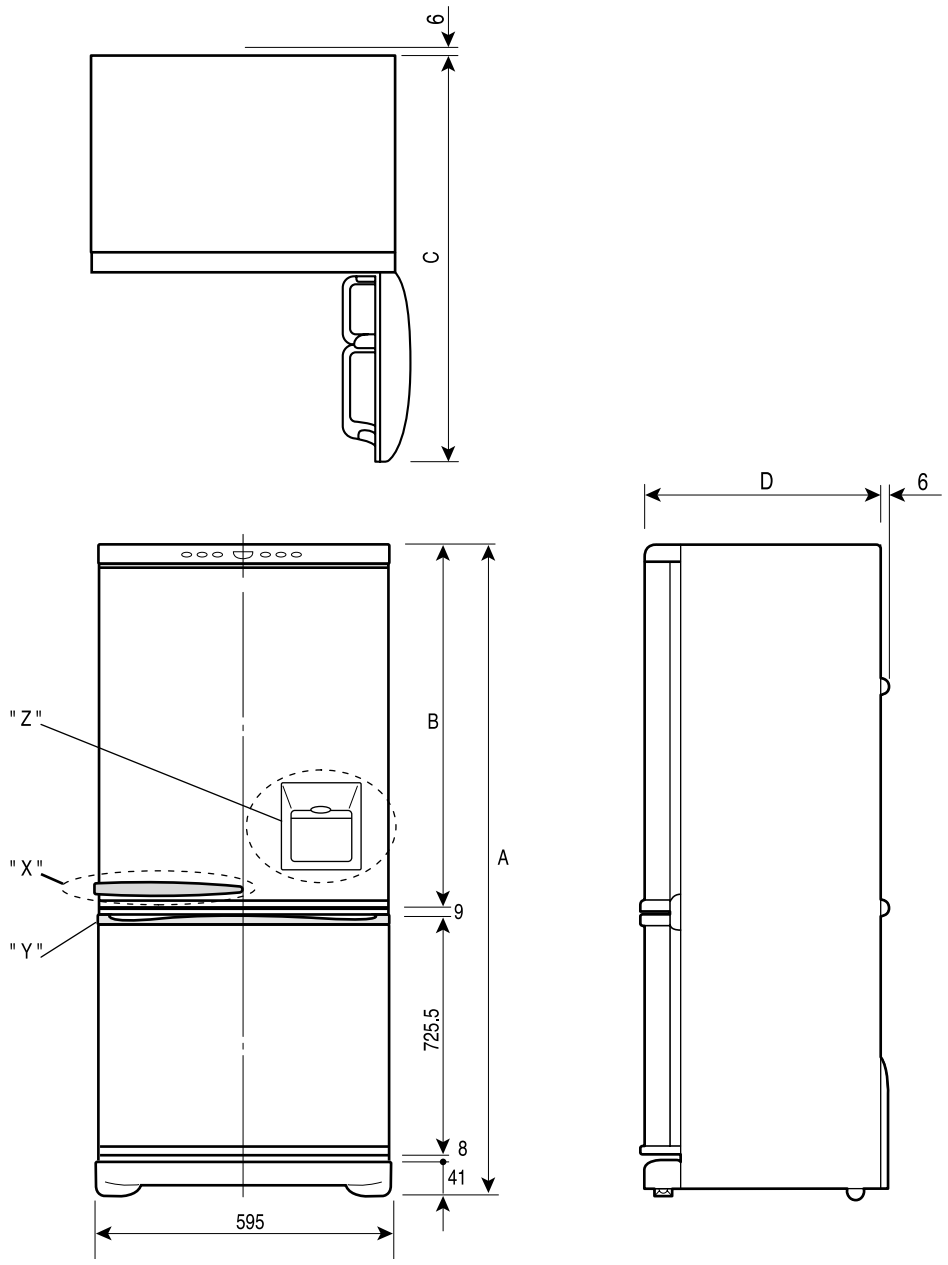
5-3. SEMI-ELECTRONIC MODEL (SR-L3916B(A)/L39NMB(A)/ SR-L3916B(A)/L36NMB(A))



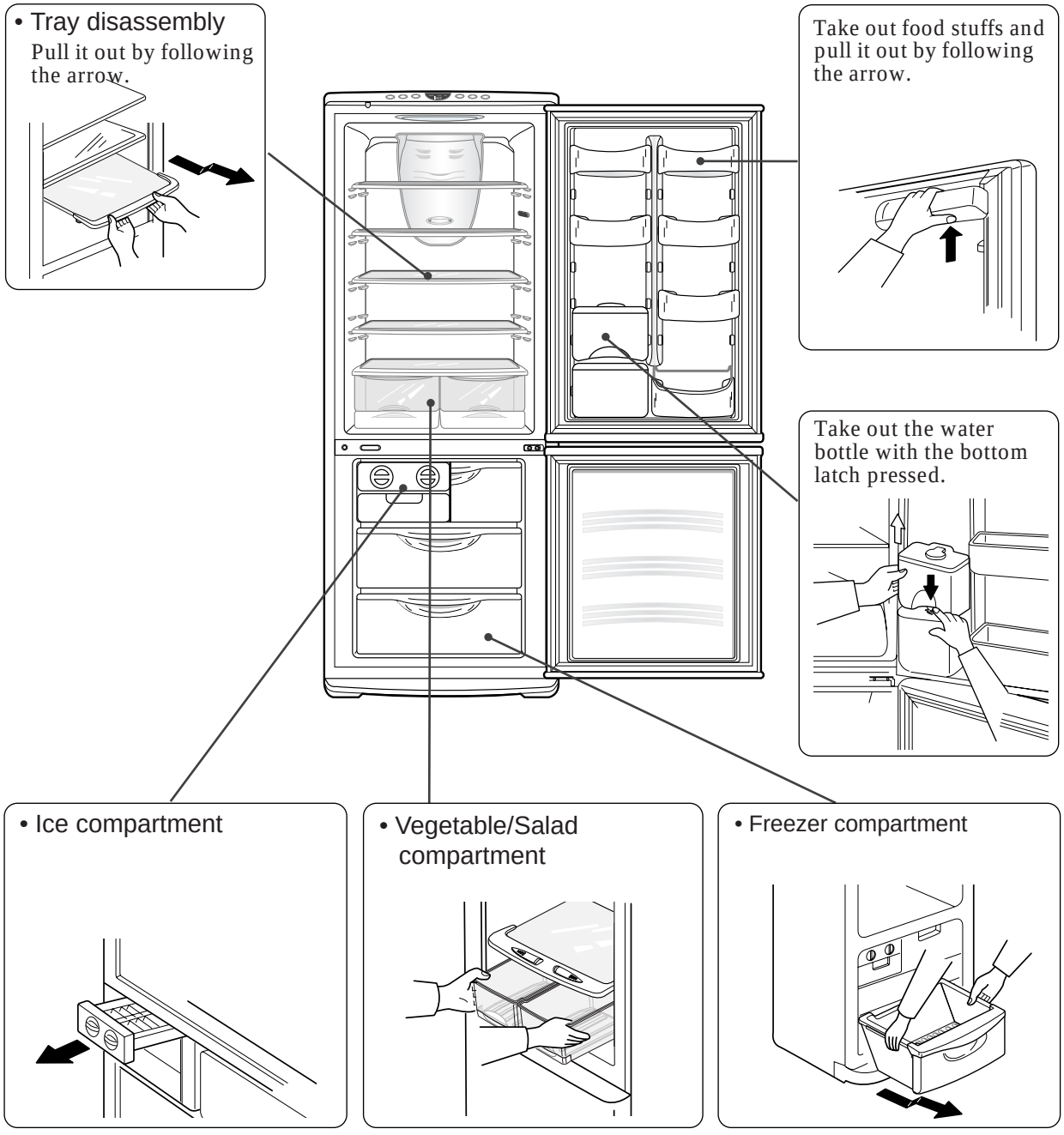
6. Function & Operating Instruction

6-1. Product Dimension



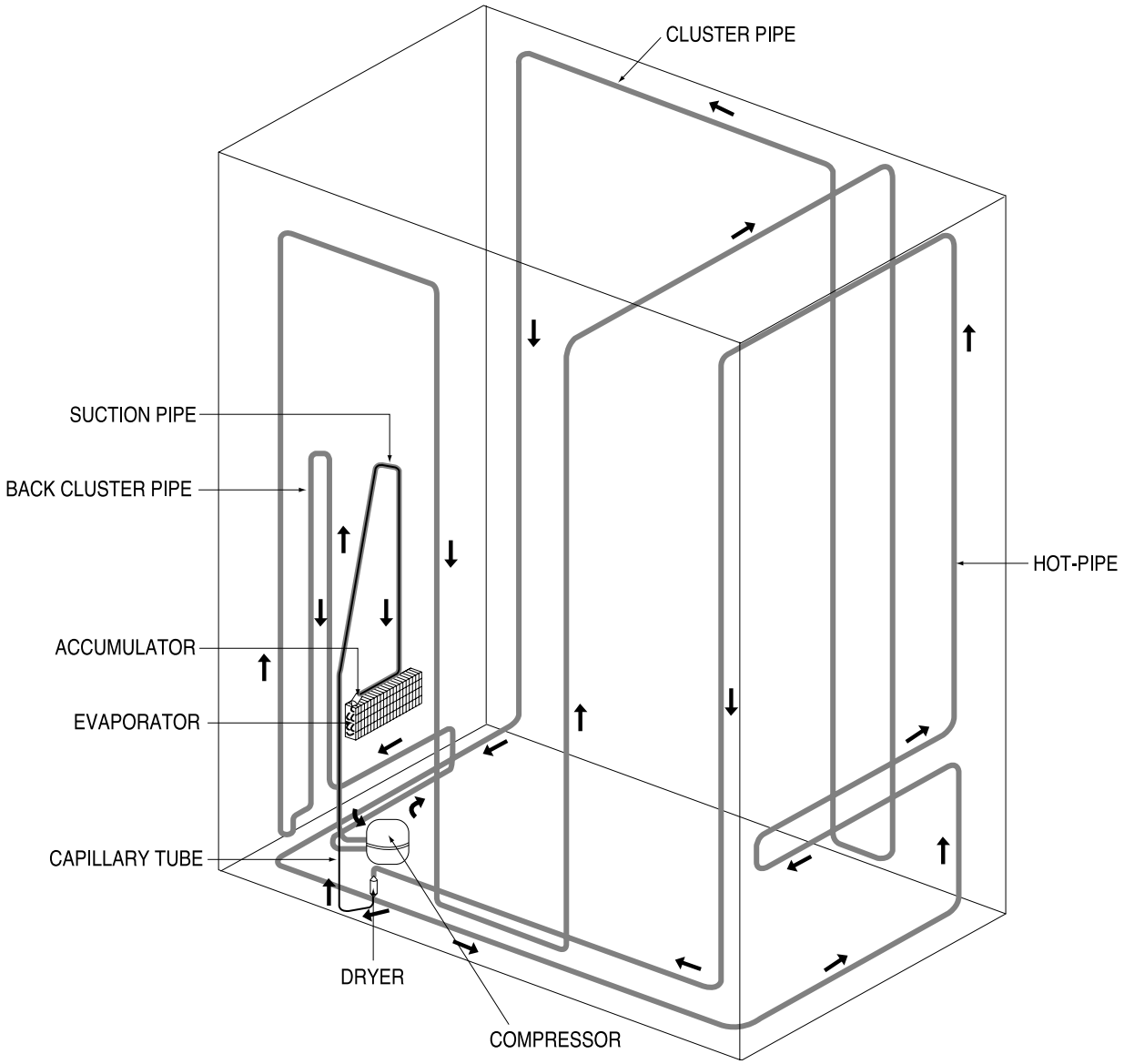
MODEL	A	B	C	D	HANDLE	Remarks	
SR-L3928B/L39WEB	1,920	1114.5	1,169	631	RECESS	“Y” “Z”	ELECTRONIC
SR-L3926B/L39NEB	1,920	1114.5	1,169	631	RECESS	“Y”	
SR-L3626B/L36NEB	1,820	1014.5	1,169	631	RECESS	“Y”	SEMI ELECTRONIC
SR-L3916B/L39NMB	1,920	1114.5	1,169	631	RECESS	“Y”	
SR-L3616B/L36NMB	1,820	1014.5	1,169	631	RECESS	“Y”	
SR-L3928A/L39WEA	1,920	1114.5	1,169	663	BAR	“Y” “Z”	ELECTRONIC
SR-L3926A/L39NEA	1,920	1114.5	1,169	663	BAR	“X”	
SR-L3626A/L36NEA	1,820	1014.5	1,169	663	BAR	“X”	SEMI ELECTRONIC
SR-L3916A/L39NMA	1,920	1114.5	1,169	663	BAR	“X”	
SR-L3616A/L36NMA	1,820	1014.5	1,169	663	BAR	“X”	

6-2. Part Name & Disassembly

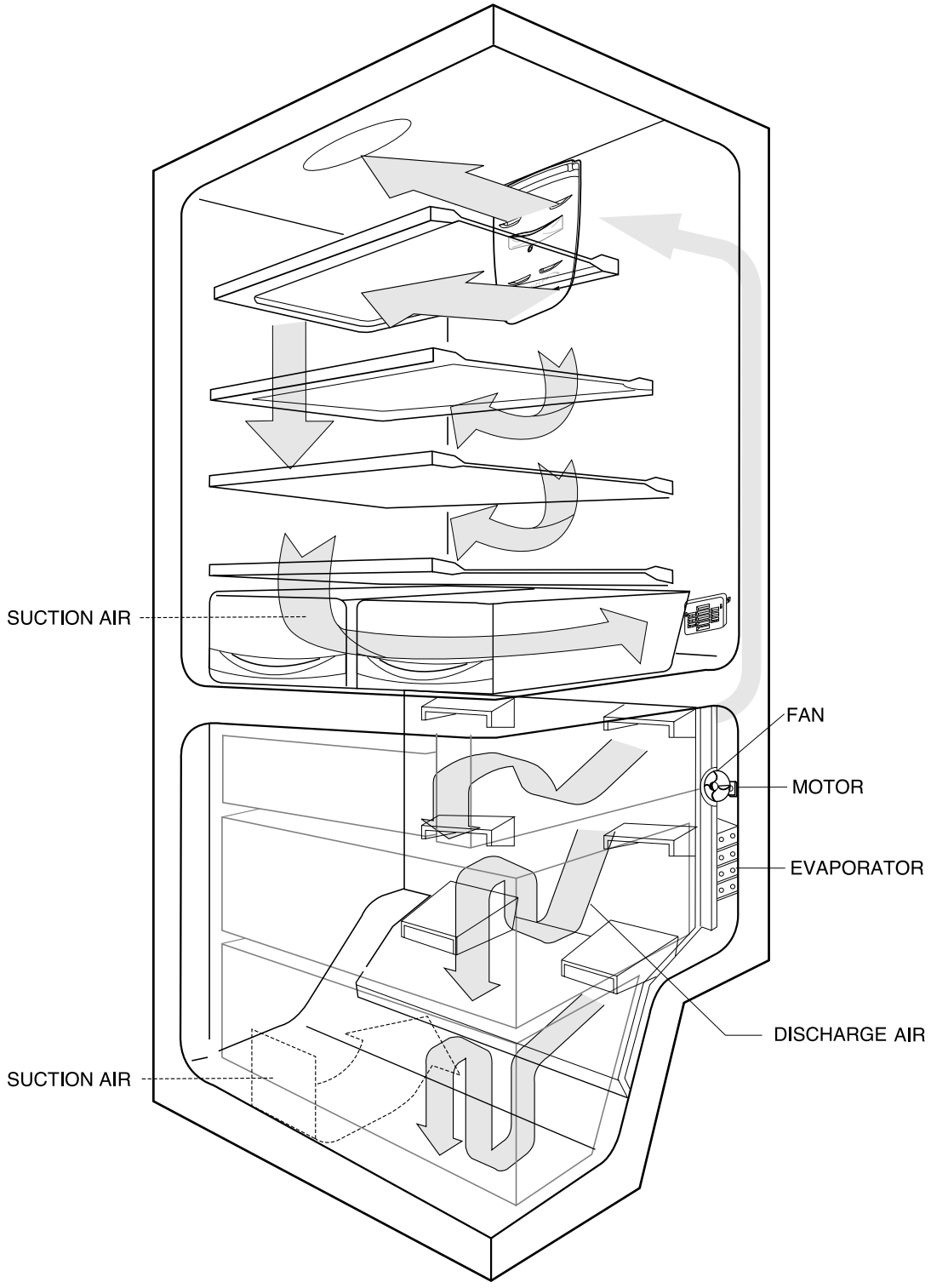

• Tray disassembly
Pull it out by following the arrow.
Take out food stuffs and pull it out by following the arrow.
Take out the water bottle with the bottom latch pressed.
• Ice compartment
• Vegetable/Salad compartment
• Freezer compartment

6-3. Circulation of Refrigerant

Compressor → Back cluster pipe → Cluster pipe → Hot pipe → Dryer → Capillary tube → Evaporator → Accumulator → Suction pipe → Compressor



6-4. Cool Air Circulation



7. Functions of Refrigerator

7-1. 7-Segments Display Function

Section		Function
Initial POWER ON (Power s/w, instantaneous electricity failure)	Notch setting (YES)	Blink setting temperature of freezer until temperature reaches below TFSET_ON +3℃
	Notch setting (NO)	"--" displayed (until the notch control is operated)
Stabilization of the temperature in the freezer (Since the setting temperature have reached)		Blink if temperature goes above TFSET_ON +3℃. Display the setting temperature if the temperature goes below TFSET_ON +2℃
Defrosting (precooling+defrosting+pause)		Display "Blinking" continuously ignoring temperature of freezer if displayed state of freezer before defrosting was "Blinking". Display "Setting temperature of freezer" continuously ignoring temperature of freezer if displayed state of freezer before defrosting was "Setting temperature of freezer". Maintain temperature constantly while it reaches TFSET_OFF point When you return to the operating cycle.
Super		Blink if temperature goes above TFSET_ON +3℃ Display the setting temperature if the temperature goes below TFSET_ON +2℃
Forced freezing		Display "FF"(Forced Freezing)
Forced defrosting		Display "Fd"(Forced Defrosting)
Display function of the temperature of refrigerator		If you push "REF. TEMP." button indicative LAMP of refrigerator starts to light up and blink the setting temperature of refrigerator. If you do not input the KEY, it is blinked 5 times for 5 seconds at 0.5-second interval and automatically converted to the displayed state of setting temperature of refrigerator.
Display function of the temperature of freezer		If you push "FRE. TEMP." button indicative LAMP of freezer starts to light up and blink the setting temperature of freezer. If you do not input the KEY, it is blinked 5 times for 5 seconds at 0.5-second interval and automatically converted to the displayed state of setting temperature of freezer.

∗ References

1) TFSET-ON : "Setting temperature of freezer +3℃"

2) TFSET-OFF : "Setting temperature of freezer -3℃"

7-2. Function of Thermostatic Control

A. Function of controlling the temperature of freezer

1) You can control the temperature of freezer from -17℃ to -25℃ at 1℃ interval by pushing the control button of the temperature of freezer.(FRE. TEMP.)

2) Temperature is displayed in following order "-19℃, -20℃, -21℃, -22℃, -23℃, -24℃, -25℃, -17℃, -18℃", whenever you push the control button of temperature.

3) The temperature of freezer is automatically set to be "-19℃" on initial POWER ON.

Section	Power	1 time push	2 time push	3 time push	4 time push	5 time push	6 time push	7 time push	8 time push	9 time push
7 Segment	----►	--► –19˚C	--► –20˚C	--► –21˚C	--► –22˚C	--► –23˚C	--► –24˚C	--► –25˚C	--► –17˚C	--► –18˚C
Controlled temperature of freezer		–19˚C	–20˚C	–21˚C	–22˚C	–23˚C	–24˚C	–25˚C	–17˚C	–18˚C

B. Function of controlling the temperature of refrigerator

1) You can control the temperature of refrigerator from 6℃ to 1℃ at 1℃ interval by pushing the control button of the temperature of refrigerator.
2) Temperature is displayed in following order "4℃, 3℃, 2℃, 1℃, 6℃, 5℃", whenever you push the control button of temperature.
3) The temperature of refrigerator is automatically set to be "4℃" on initial POWER ON.

Section	power on	1 time push	2 time push	3 time push	4 time push	5 time push	6 time push	note
7 Segment		4˚C	3˚C	2˚C	1˚C	6˚C	5˚C	
Controlled temperature of freezer		4˚C	3˚C	2˚C	1˚C	6˚C	5˚C	

C. SUPER Function

1) Press "SUPER" button briefly so that the LED lights up. The Freezer temperature will decrease and the appliance will switch to the lowest temperature.
2) The displayed state is circulated in following order, SUPER is selected → SUPER is released → SUPER is selected, whenever you push the SUPER button one time.

Section	Initial power on	1 time push	2 time push	note
Dispaly change	"SUPER" Lamp off	"SUPER" Lamp ON	"SUPER" Lamp off	

3) If you select the ECO function while SUPER function is working, SUPER function is released and ECO function begins to work.
4) If you select SUPER function, Compressor(and Fan) will be operating continuosly until the temperature of freezer reaches -25℃. (10 seconds after selection)
5) If the temperature does not reach -25℃ after working for 2 hours, compressor will be turned off automatically for 25minutes, and then compressor will be turned on antomatically until the temperature of freezer reaches -25℃ and this function will repeat for 8 hours.
6) If the commencing condition of defrosting is reached during super function, a defrosting cycle will be postponed until the next 25minutes delay time.

D. ECO Function

1) You can select or release this function by pushing the ECO button.
2) If you select the SUPER function while ECO function is working, ECO function will be released and SUPER function will begin to work.
3) If you select the function of controlling the temperature of freezer compartment or fresh food compartment while ECO function is working, ECO function will be released.
4) If you select the ECO function, the temperature of freezer and refrigerator will be controlled as -17℃ and 6℃, respectively.

E. VACATION Function

1) You can select or release this function by pushing the VAC button.
2) If you select the VAC function, the temperature of refrigerator will not be controlled and DAMPER will be maintained as closed state. So that, cool air will not be supplied to the refrigerator.
3) VAC function does not affect setting up of the temperature of freezer.
4) If you push the button of controlling the temperature of refrigerator while VAC function is working, VAC function will be released automatically.

7-3. Initial Function

A. Initial function of first POWER ON

1) If power is pressed (POWER S/W ON), it will begin to make a self diagnosis and light all DISPLAY for 2 seconds if normal condition is confirmed
2) After lighting DISPLAY ON, 7-Segment will be displayed as "--".
3) Defrosting HEATER is set to be ON forcibly for 3 seconds irrespective of the evaporator temperature.
4) After turning the defrosting HEATER ON for 3 seconds, turn off the defrosting HEATER and turn COMP. ON and keep it up for 5 minute irrespective of temperature of refrigerator.
5) After turning COMP. ON, operate DAMPER-MOTOR for control of refrigerator and confirm the zero point and 60Hz/50Hz and then control as considering the temperature condition of refrigerator.
6) At this moment, if it does not confirm the zero point due to the disorder of the some part of DAMPER-MOTOR, COMP. will be stoped immediately and display self diagnosis.

7-4. Defrosting Function

A. Common function

1) The period of defrosting is set to be 19 hours according to the COMP intergrated criterion. Previous standard means the following conditions : frequency of opening and closing of the DOOR of refrigerator must be less than one time, the temperature of refrigerator and the temperature of freezer did not increase above TRSET ON+6℃ and TFSET ON+4℃, respectively and special functional button (VAC,SUPER,ECO)was not selected. Besides the predescribed condition, the period of defrosting will be 6 hours and 50 minutes unconditionally.
2) If power is turned off and then is turned on again, the commencement of defrosting will be after 4 hours of the running time of compressor.
3) The COMP and FAN during defrosting, will stop and DAMPER-MOTOR will swing continuously.
4) At a pause time, DAMPER-MOTOR.
5) With the exception of 19 hours in the period of defrosting, will also swing the Pre_Cooling will be executed by operating the COMP forcibly for 50 minutes before execution of defrosting.
6) You are recommended to have a pause time after completion of HEATING.
7) The HEATING for defrosting will be controlled by SENSOR. If SENSOR is out of order or the temperature of EVAP is higher than HEATER ON temperature, HEATING will be skipped and ref only has a pause time.

B. Defrosting Function while SUPER function is working

1) The operation of defrosting while SUPER function is working will be delayed until the compressor running time is to be 2 hours.
2) If the SUPER function is released by pushing the button before completion of SUPER function, the defrosting function will be operating including the worked time of COMP. operation which was worked by SUPER function.
3) If SUPER function is selected while defrosting function is working, DISPLAY will be set to be SUPER ON condition immediately, but SUPER function will be working after completion of defrosting function.

C. HEATER ON/OFF during defrosting

1) The temperature of defrosting HEATER ON

General defrosting	Forced defrosting	Note
below -5℃	below -5℃	Same under all defrosting condition

2) The temperature of defrosting HEATER OFF

Section	6 hours and 50 minutes	19 hours	4 hours	Note
OFF	12℃	12℃	12℃	
OFF	12℃	12℃	12℃	

7-5. TEST Function

◆ TEST function is for examination of product and PCB, process control and service.
◆ After confirmation of function of product by selecting TEST S/W, You must reboot the POWER and operate self-diagnosis function.

A. Forced operating function

1) If you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds, COMP will begin to work immediately and "FF" will be displayed on the 7 SEGMENTS.
2) If the forced operation is selected, COMP. will work immediately without the delay of 5 minute. At this time, despite of running of defrosting the defrosting will stop.
3) If the forced operation is selected, COMP. will be working as PULL DOWN for 28 hours but the temperature of refrigerator will be controlled by REF. TEMP. button.
4) During the forced operation, SUPER function does not work. If you select the SUPER function, SUPER LAMP will be turned off immediately within 0.2 second after turning on the LAMP.

B. Forced defrosting function

1) If you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds only once during the forced defrosting, COMP will begin to set to be OFF and "Fd" will be displayed on the 7 SEGMENTS.
2) If the temperature of evaporator sensor is below -5℃ during the forced defrosting, heating will not work and will begin to work as delay time immediately.

C. TEST release function

1) If you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds only once during the forced defrosting, the forced TEST function will be converted immediately to the previous temperature setting state immediately and "Fd" will disappear on the DISPLAY.

7-6. The compensating function for electricity failure

A. NOTCH SAVE function

1) Whenever you push one of the SUPER, ECO, VAC, FRE.TEMP. and REF.TEMP. Button, the current state will be saved and set to be the NOTCH and DISPLAY state which value was memorized
as the one at rebooting point of POWER, respectively.
2) If the evaporator temperature at the inititial POWER ON state is less than the general defrosting OFF temperature, a clause1) will begin to work. If the evaporator temperature at the inititial POWER ON state is above the defrosting OFF temperature, the NOTCH of FRE.TEMP. and REF.TEMP. will be set to be -19℃ and 4℃, and SUPER, ECO and VAC function does not selected.

7-7. The rest control functions

A. Function of COMP protection

1) After COMP is turned off, 5 minutes must be elapsed for the another operation under all conditions.
2) For the forced operation, compressor will begin to work immediately by pushing the forced operating function without any delay for 5 minutes.
3) At the initial moment of POWER ON or POWER S/W ON, this function begins to work immediately after heating of defrosting for 3 seconds.

B. Function of supercooling protection of refrigerator with a surrounding air of low temperature.

1) If the temperature of surrounding air begins to drop below 13℃, the hysteresis of freezer sensor will alter ±3.0℃ into ±1.5℃ and the temperature of refrigerator will be controlled with -1℃ shifted.
2) If the temperature of surrounding air will be between 14℃ and 31℃, the hysteresis of freezer sensor will be back to ±3.0℃ and the refrigerator will be controlled with REF. TEMP. setting temperature.
3) If the temperature of surrounding air begins to rise above 33℃, the hysteresis of freezer sensor will alter ±3.0℃ into ±1.5℃.

C. Function of NOTCH compensation

1) The NOTCH of refrigerator temperature will be -1℃ shifted when the NOTCH setting of freezer and refrigerator are ranged from -17℃ to -19℃ and 1℃ to 2℃, respectively.
2) The NOTCH of refrigerator temperature will be +2℃ shifted when the NOTCH setting of freezer and refrigerator are ranged from -25℃ to -23℃ and 5℃ to 6℃, respectively.
3) The NOTCH of refrigerator temperature will be set to be normal condition when the NOTCH setting of freezer is ranged from -20℃ to -22℃.

7-8. Function of Self diagnosis

A. Function of self diagnosis

1) The criterion of disorder of temperature sensor is out of temperature range from -50℃ to +50℃. It is treated as SHORT/OPEN if the MICOM input voltage is out of voltage range from 0.5 VOLT to 4.5 VOLT.

◆ The disorder table prepared by self-diagnosis

NO	Items	Segments display	Contents of disorder	Note
1	R-SENSOR	"r-5"	OPEN disorder SHORT disorder	if sensing below -50℃ if sensing above +50℃
2	F-EVAP SENSOR	"d5"	〃	〃
3	F-SENSOR	"F5"	〃	〃
4	DAMPER-MOTOR (GEARED)	"rd"	CONTROL RELAY of DAMPER-MOTOR disorder or MOTOR, REED S/W, MAGNET disorder	cannot sensing ON/OFF of REED S/W for more than 1 minute operation

B. Function of initial self diagnosis by POWER ON

1) After POWER ON, inside of MICOM automatically detects the existence of the disorder of temperature sensor within one second.
2) If bad sensor is found out by self diagnosis, it will be displayed rotatory on the 7 Segment at 0.5 second interval.
3) If bad sensor is detected, any button will not be recognized and all electrical load will be set to be OFF and normal control of temperature will be reserved.
4) If bad part is repaired, it will be restored to the original state.

C. Function of self diagnosis during normal operation

1) If you push SUPER and VAC button simultaneously for 5 seconds while the refrigerator is working, "EC" on the 7 SEGMENTS will be displayed and function of self diagnosis will be selected.
2) KEY input will not work while self diagnosis function is operating. (except for POWER button)

7-9. Function of DOOR OPEN WARNING and control the light in refrigerator.

A. Warning of DOOR OPEN

1) BUZZER WARNING(ding-dong) SOUND will be generated if 2 minutes are elapsed continuously with the refrigerator door open.
2) Initial BUZZER WARNING will be generated for 10 seconds after 2 minutes of DOOR OPEN, and since then "Ding-Dong" sound will be generated every one minute for 10 seconds periodically.
3) If the refrigerator door is closed, warning will stop immediately.
4) If 10 minutes are elapsed continuously with the door open, light in refrigerator will be turned off and warning continues to work.

B. Function of controlling the light in refrigerator

1) If 10 minutes are elapsed continuously with refrigerator door open, the light in the refrigerator will be turned off automatically.
2) Despite of turning the light in the refrigerator off, it will be set to be ON again if you open the DOOR which was closed.
3) At this moment, OFF time of the light will be set to be 10 minutes again.

7-10. Function of POWER ON/OFF & Alarm of electricity failure

A. Function of POWER ON/OFF

1) This function is selected or released by POWER button.
2) If the power switch is turned on, all electrical load work normally, "--" will be displayed on the 7-SEGMENTS DISPLAY.
3) At above state, 7-SEGMENTS will display the setting temperature if you push the freezer or the refrigerator setting BUTTON.

B. Function of Alarm of electricity failure

1) Above state(1-3 of (A)) will be maintained if the power is turned on after electricity failure
2) "--" on the 7-SEGMENTS means the occurrence of electricity failure if any handling of operating part was not done specially.

7-11. Function of BUZZER

A. Button input

1) If you push the BUTTON during normal working condition, "ding-dong" sound will be generated every 1 second.
2) Only "ding" sound is generated when the BUTTON is pushed continuously.
3) It does not sound in case of mistaken operation

B. Door alarm

1) DOOR OPEN ALARM will be generated as "ding-dong, ding-dong" if 2 minutes are elapsed continuously with the refrigerator door open.

C. Forced operation

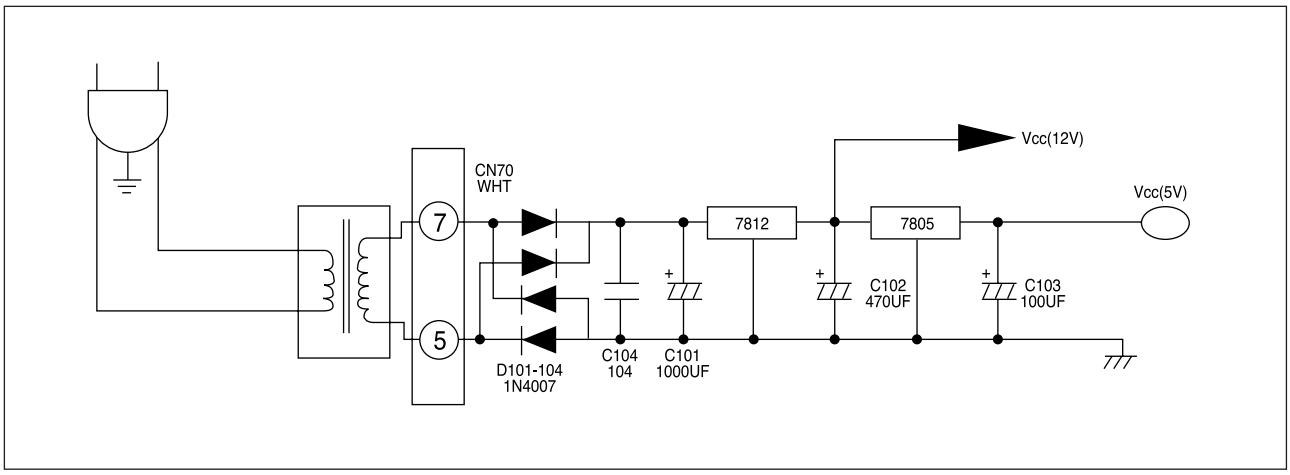
1) BEEP SOUND will be generated with a period of 0.25 second ON/0.75 second OFF if you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds.

D. Forced defrosting

1) BEEP SOUND will be generated with a period of 0.1 second ON/1 second OFF if you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds only once during the forced defrosting.

8. Circuit Descriptions

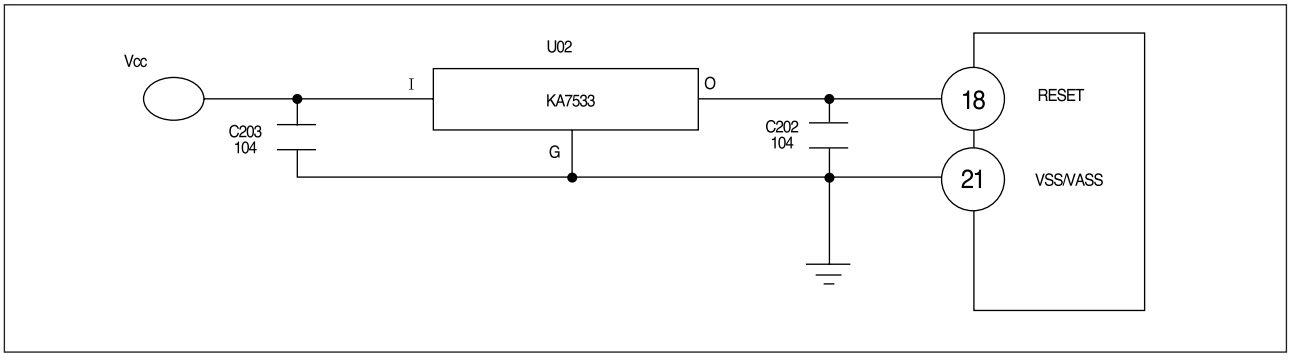
8-1. Division of power supply



Power supply	Used circuit
Vcc (DC 5V)	Auxiliary power supply of MICOM and sensing part of SENSOR
Vcc (DC 12V)	LED DISPLAY working part, RELAY working

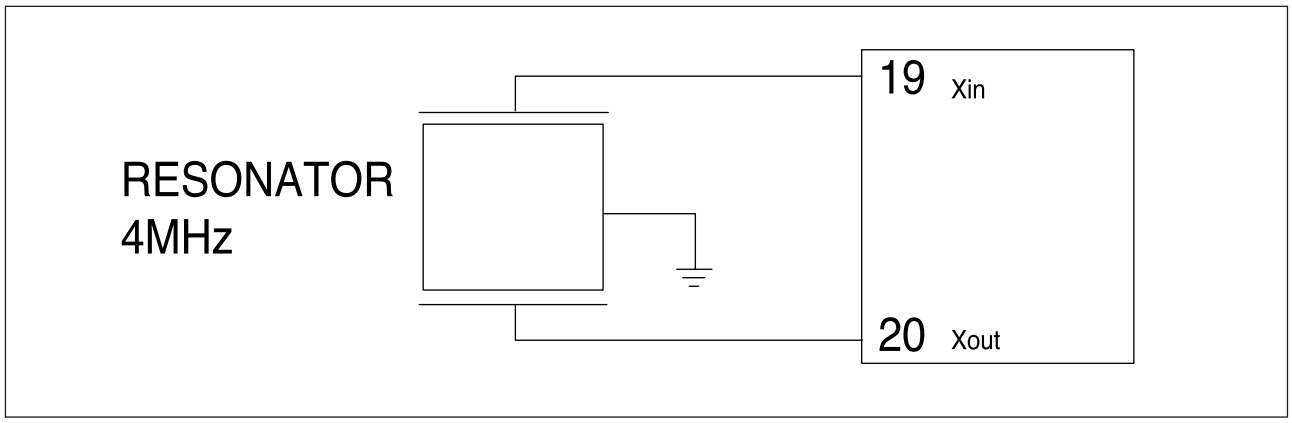
◆AC inputed power is decompressed through DC-TRANS and the reduced volatage is converted to the DC voltage through rectifying DIODE. Then it becomes flat through 1000 F/35V CAPACITOR and through REGULATOR 7812, stabilized DC 12V output comes and it is used as power source for RELAY and DISPLAY.Also from this 12V, stabilized 5V output comes through REGULATOR7805 and used as power source for MICOM auxiliary circuit and various signals(SENSOR, S/W).

8-2. Division of RESET Circuit



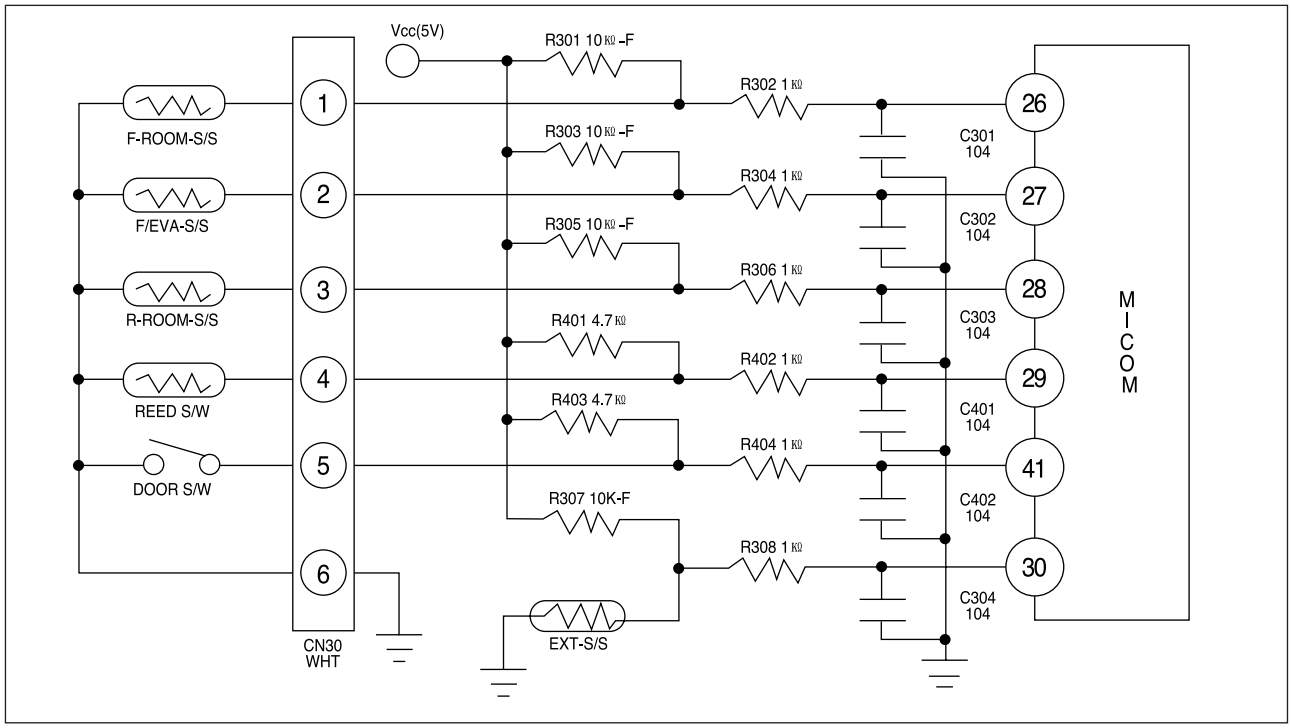
◆Division of RESET circuit makes it possible that programed function of system is set to be initial state by initializing various parts such as RAM in MICOM when power is impressed or instantaneous electricity failure is occurred. RESET voltage at the impressed moment of power is maintained as "LOW" state for a few seconds and "High" under normal working condition.

8-3. Division of RESONATOR



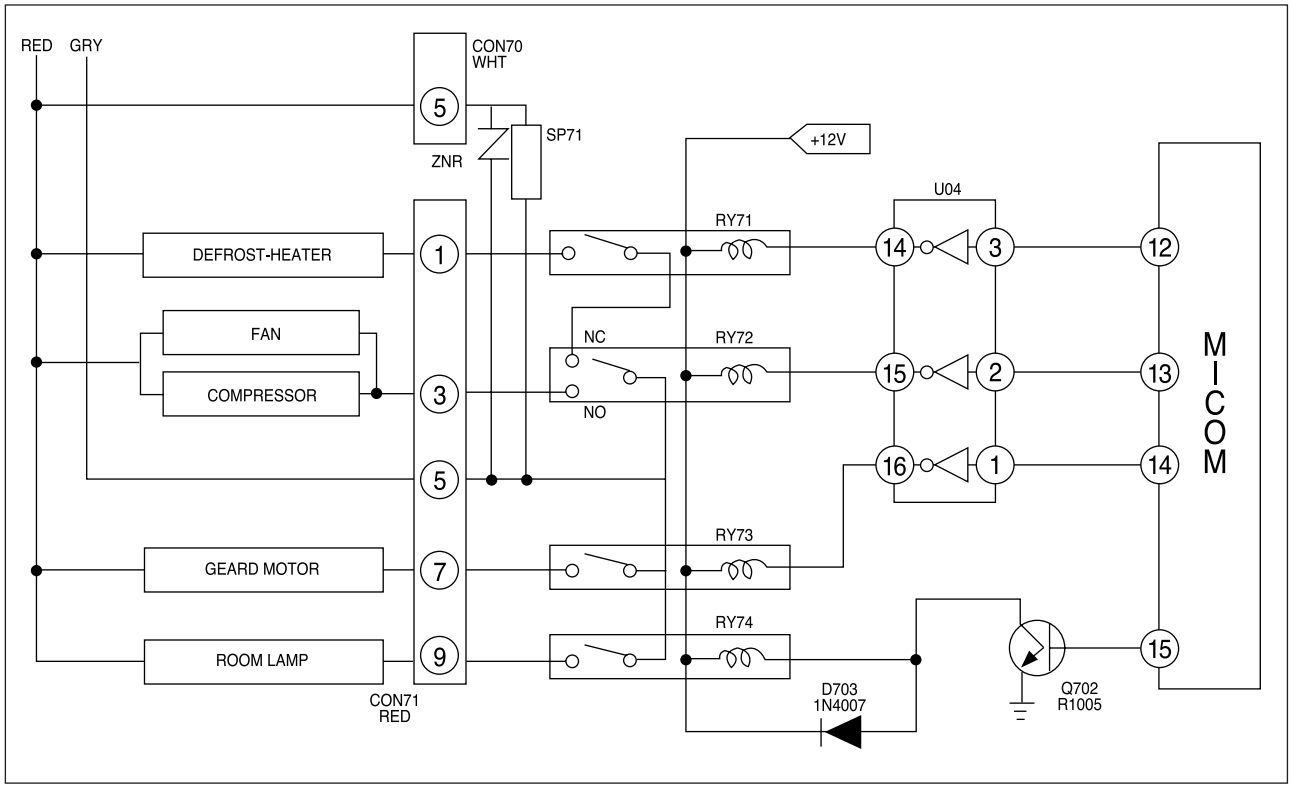
◆The role of this circuit is generation of synchronous CLOCK for transmission/reception of informations of the logical elements inside MICOM and the basic time for the calculation of time. Rated parts must be used in the division of RESONATOR because the calculation time of MICOM is changed or cannot work if specification is changed.

8-4. Division of SENSOR



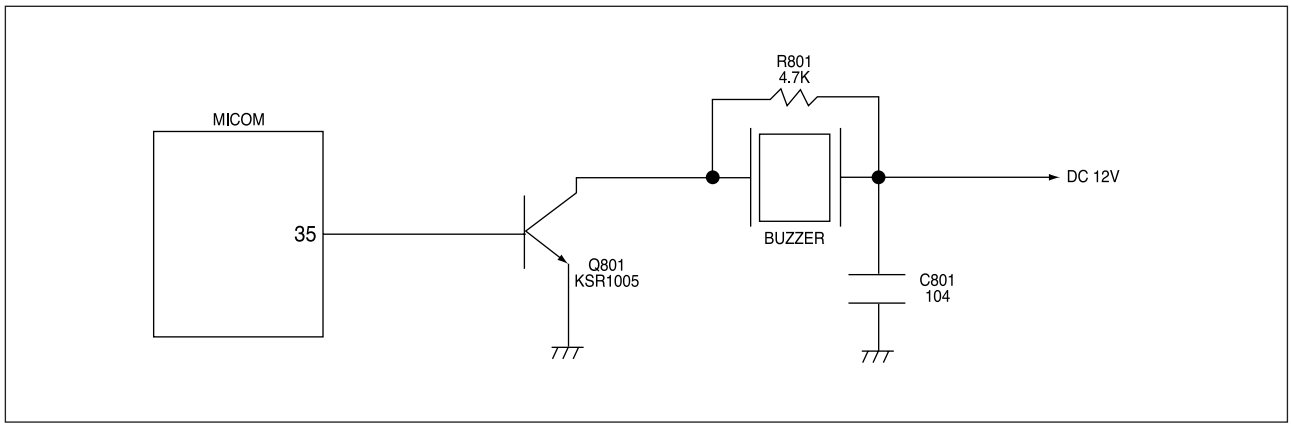
◆ SENSOR and F-rated resistance are connected to the GROUND and DC 5V, respectively. The resistance value which is changed by the temperature is converted to the voltage, and then respective temperature is discriminated by input voltage to A/D PORT of MICOM

8-5. Division of OPERATING



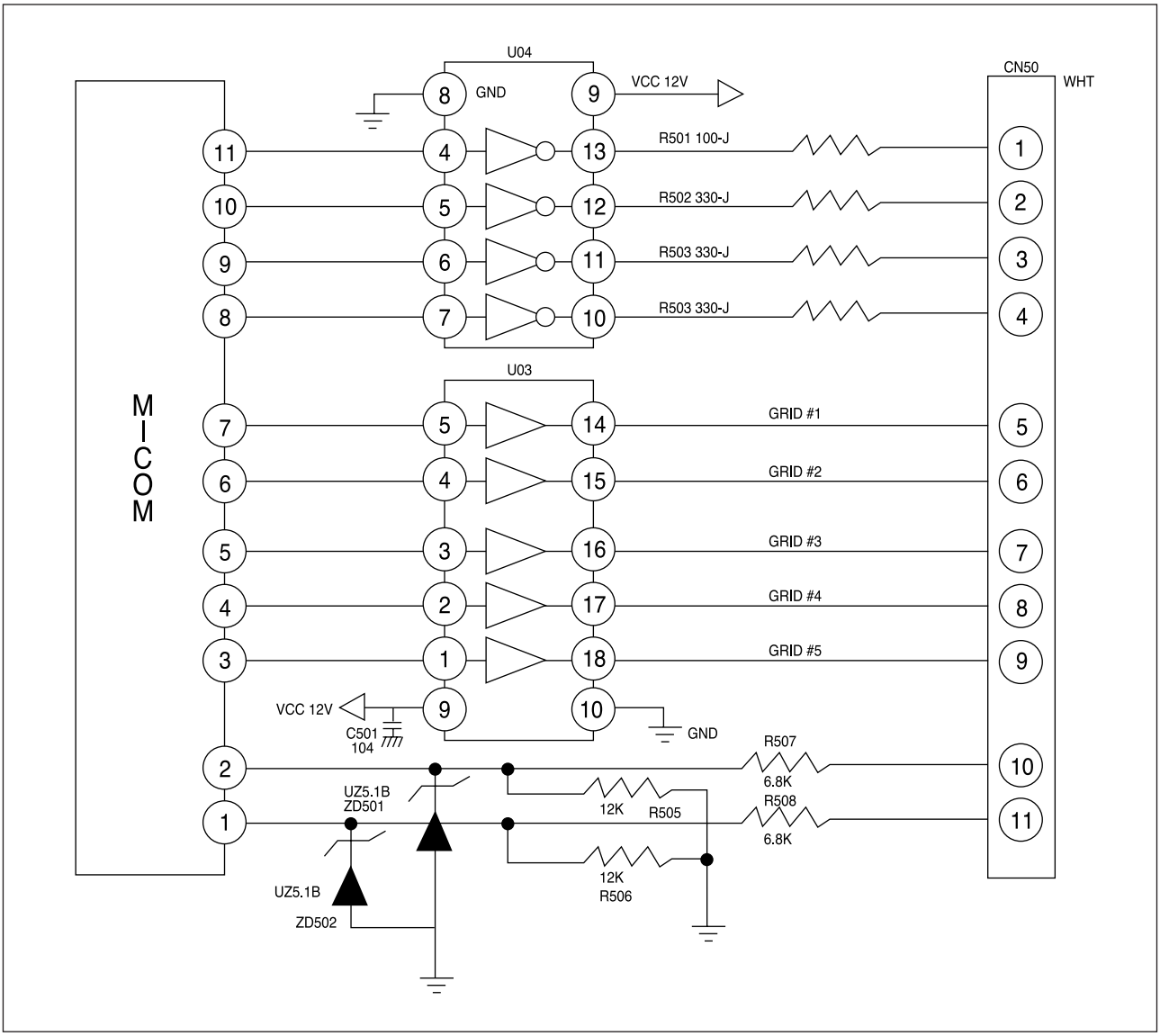
◆ If at MICOM PORT begins to output "High" signal which corresponds to electrical load which we intend to work, DRIVER IC(KA2657) is turned ON and at this moment, corresponding electrical load starts to operate because the DC12 yield the electric current which flows corresponding RELAY COIL and RELAY contacting point is set to be ON so corresponding electrical load begins to operate.

8-6. Division of BUZZER



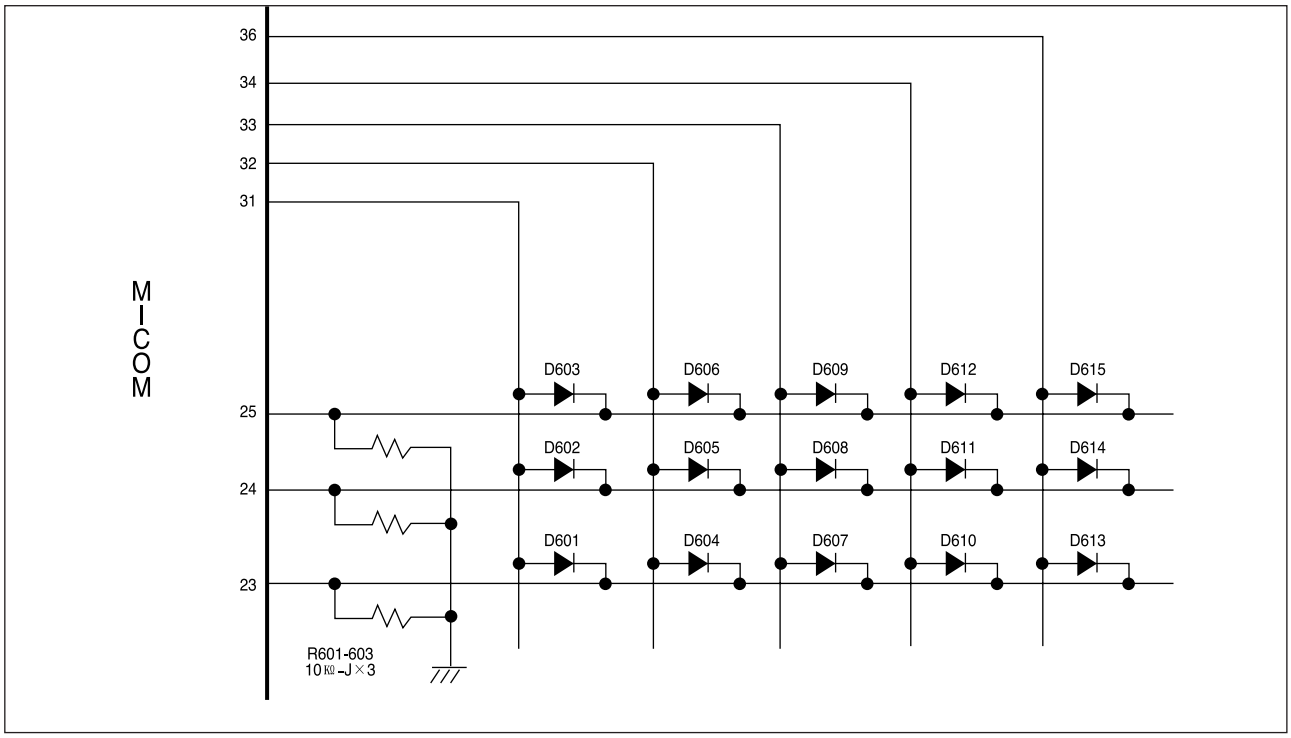
◆ TRANSISTOR begins to operate by CLOCK which was generated at MICOM and BUZZER sound is generated by impression of 12V to the BUZZER.

8-7. Division of DISPLAY, KEY SCAN



◆from MICOM #3-#7 GHID signal is generated for 10 sec with the period of 2 sec HIGH signal and for the lighting the corresponding LED, the CONTROL terminal of MICOM PIN #8-#11 output the output signal which is coincident with GRID signal. Meanwhile by pushing the KEY which is connected by respective GRID, corresponding signal is inputted to MICOM.

8-8. Division of OPTION



◆The output such as GRID wave form which is only generated at the initial POWER ON is accepted as input through SWITCHING DIODE and discriminate OPTION by matrix method. #23, #24, and #25 PORT of MICOM PORT generate the same output with GRID wave form only at initial POWER ON.

◆Shift of temperature in freezer compartment(unit : ˚C)

SHIFT	3	2	1
Default	0	0	0
-1.0˚C	0	0	1
-2.0˚C	0	1	0
-3.0˚C	0	1	1
+1.0˚C	1	0	0
+2.0˚C	1	0	1
+3.0˚C	1	1	0
+4.0˚C	1	1	1

◆Shift of temperature in refrigerator compartment(unit : ˚C)

SHIFT	6	5	4
Default	0	0	0
-1.0˚C	0	0	1
-2.0˚C	0	1	0
-3.0˚C	0	1	1
+1.0˚C	1	0	0
+2.0˚C	1	0	1
+3.0˚C	1	1	0
+4.0˚C	1	1	1

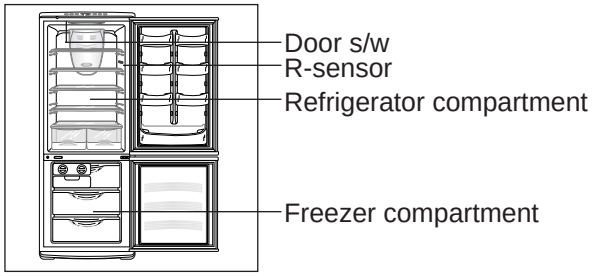
9. Diagnosis of disorder and method of repair

Method of inspecting MAIN-PCB

- At the self diagnosis CHECK, you have to turn the main power OFF and turn it ON and check.
- ERROR CODE of self diagnosis is prepared as shown in the following table.

※ ERROR CODE of self diagnosis

NO	Items	Segments display	Contents of disorder	Note
1	R-SENSOR	"r-5"	OPEN disorder SHORT disorder	if sensing below -50℃ if sensing above +50℃
2	F-EVAP SENSOR	"d5"	〃	〃
3	F-SENSOR	"F5"	〃	〃
4	DAMPER-MOTOR (GEARED)	"rd"	CONTROL RELAY of DAMPER-MOTOR disorder or MOTOR, REED S/W, MAGNET disorder	cannot sensing ON/OFF of REED S/W for more than 1 minute operation



※ Resistance of sensor and voltage of MICOM according to the temperature

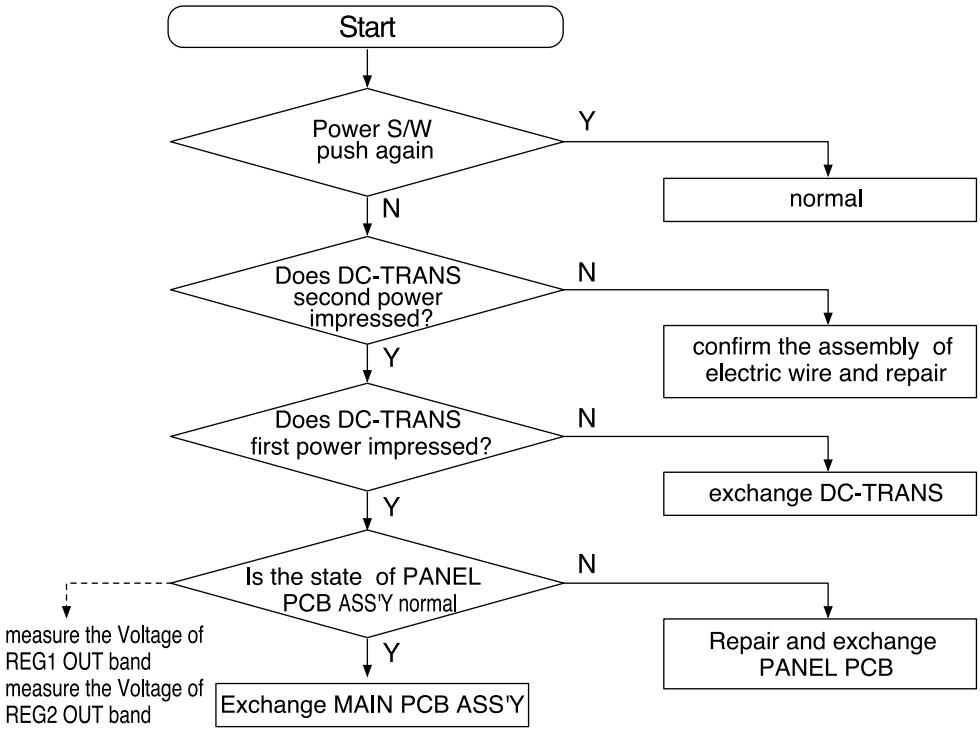
temperature	resistance	voltage	temperature	resistance	voltage
-35	68150	4.360	-15	25650	3.597
-34	64710	4.331	-14	24510	3.551
-33	61480	4.301	-13	23420	3.504
-32	58430	4.269	-12	22390	3.456
-31	55550	4.237	-11	21410	3.408
-30	52840	4.204	-10	20408	3.360
-29	50230	4.170	-9	19580	3.310
-28	47770	4.134	-8	18730	3.260
-27	45450	4.098	-7	17920	3.209
-26	43260	4.061	-6	17160	3.159
-25	41190	4.023	-5	16430	3.108
-24	39240	3.985	-4	15740	3.057
-23	37390	3.945	-3	15080	3.006
-22	35650	3.905	-2	14450	2.955
-21	33990	3.863	-1	13860	2.904
-20	32430	3.822	0	13290	2.853
-19	30920	3.778	1	12740	2.801
-18	29500	3.734	2	12220	2.750
-17	28140	3.689	3	11720	2.698
-16	26870	3.644	4	11250	2.647

temperature	resistance	voltage	temperature	resistance	voltage
5	10800	2.596	25	5000	1.667
6	10370	2.545	26	4821	1.626
7	9959	2.495	27	4650	1.587
8	9569	2.445	28	4487	1.549
9	9195	2.395	29	4329	1.511
10	9839	2.346	30	4179	1.474
11	8494	2.296	31	4033	1.437
123	8166	2.248	32	3894	1.401
13	7852	2.199	33	3760	1.366
14	7552	2.151	34	3631	1.332
15	7266	2.104	35	3508	1.298
16	6992	2.057	36	3390	1.266
17	6731	2.012	37	3276	1.234
18	6481	1.966	38	3167	1.203
19	6242	1.922	39	3026	1.172
20	6013	1.873	40	2962	1.143
21	5792	1.834	41	2864	1.113
22	5581	1.791	42	2770	1.085
23	5379	1.749	43	2680	1.057
24	5185	1.707	44	2593	1.030

Preliminary examination

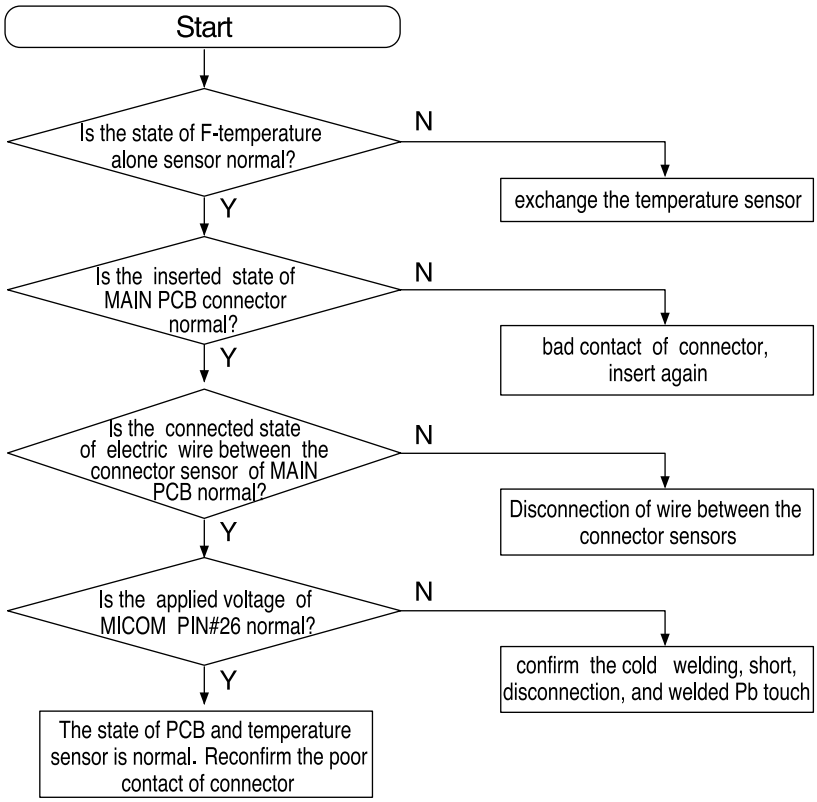
1. Check out whether power of an outlet flows out or not, and POWER CODE is connected normally or not before repair of disorder
2. Check out whether POWER S/W on the PANEL PCB is pushed or not.
3. If additional disorder may detected, check out by referencing the note of next page.

9-1. When the POWER does not transmitted

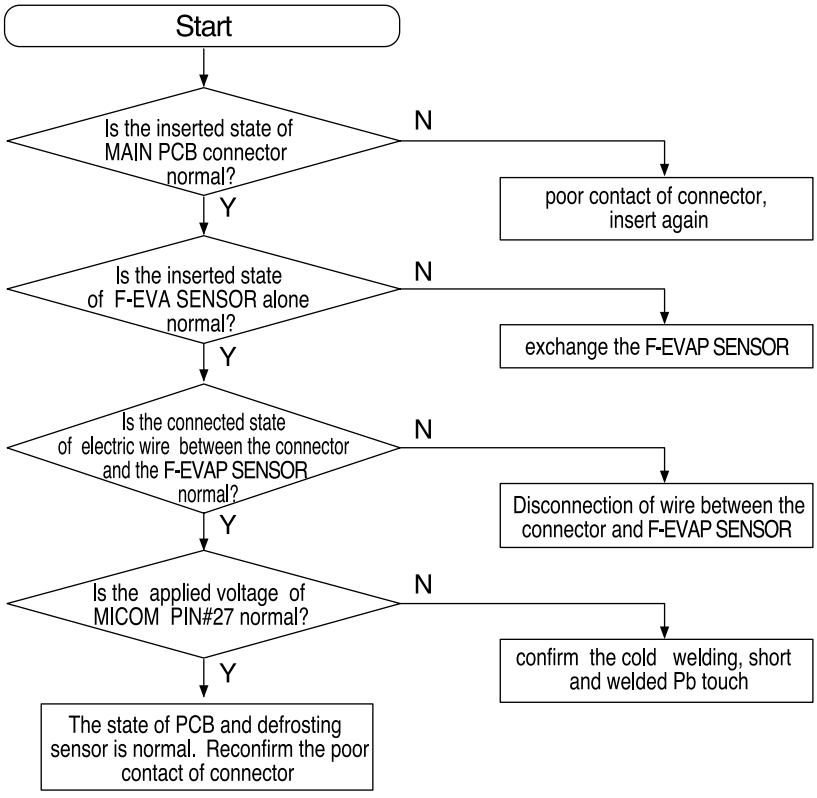


9-2. When the disorder has detected by self diagnosis

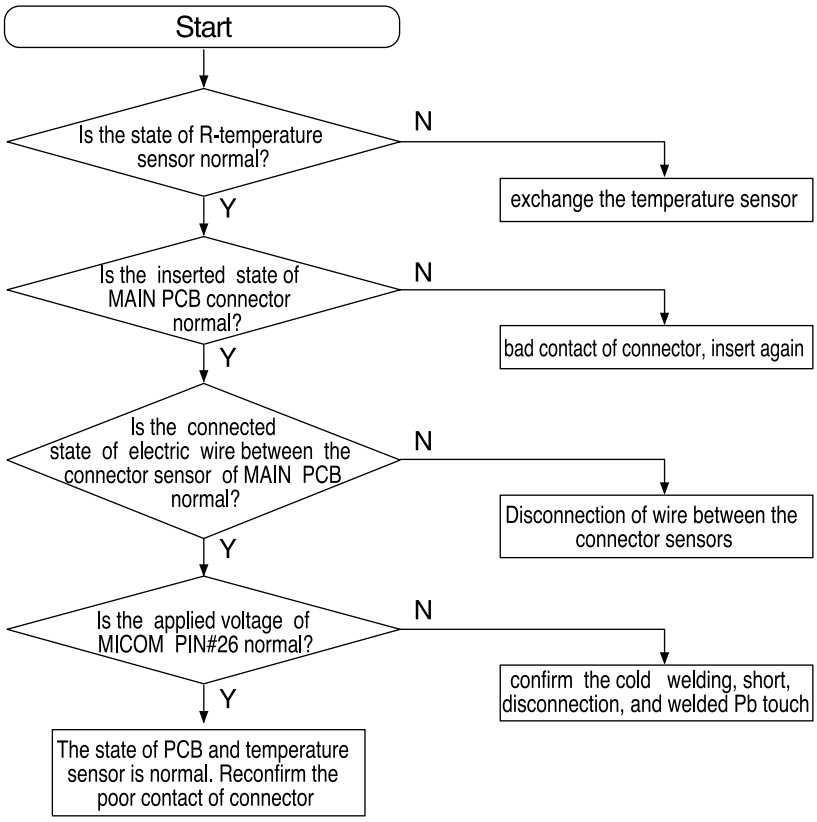
A. When the Disorder of F-ROOM SENSOR has occurred


Start
Is the state of F-temperature alone sensor normal?
N
exchange the temperature sensor
Y
Is the inserted state of MAIN PCB connector normal?
N
bad contact of connector, insert again
Y
Is the connected state of electric wire between the connector sensor of MAIN PCB normal?
N
Disconnection of wire between the connector sensors
Y
Is the applied voltage of MICOM PIN#26 normal?
N
confirm the cold welding, short, disconnection, and welded Pb touch
Y
The state of PCB and temperature sensor is normal. Reconfirm the poor contact of connector

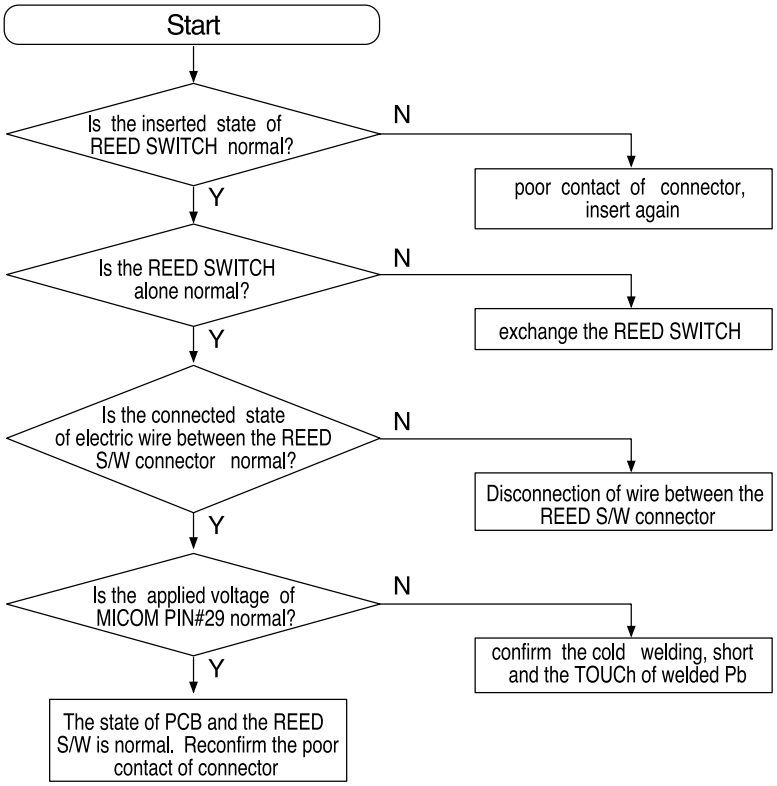
B. When the disorder of F-EVA SENSOR has occurred


Start
Is the inserted state of MAIN PCB connector normal?
N
poor contact of connector, insert again
Y
Is the inserted state of F-EVA SENSOR alone normal?
N
exchange the F-EVAP SENSOR
Y
Is the connected state of electric wire between the connector and the F-EVAP SENSOR normal?
N
Disconnection of wire between the connector and F-EVAP SENSOR
Y
Is the applied voltage of MICOM PIN#27 normal?
N
confirm the cold welding, short and welded Pb touch
Y
The state of PCB and defrosting sensor is normal. Reconfirm the poor contact of connector

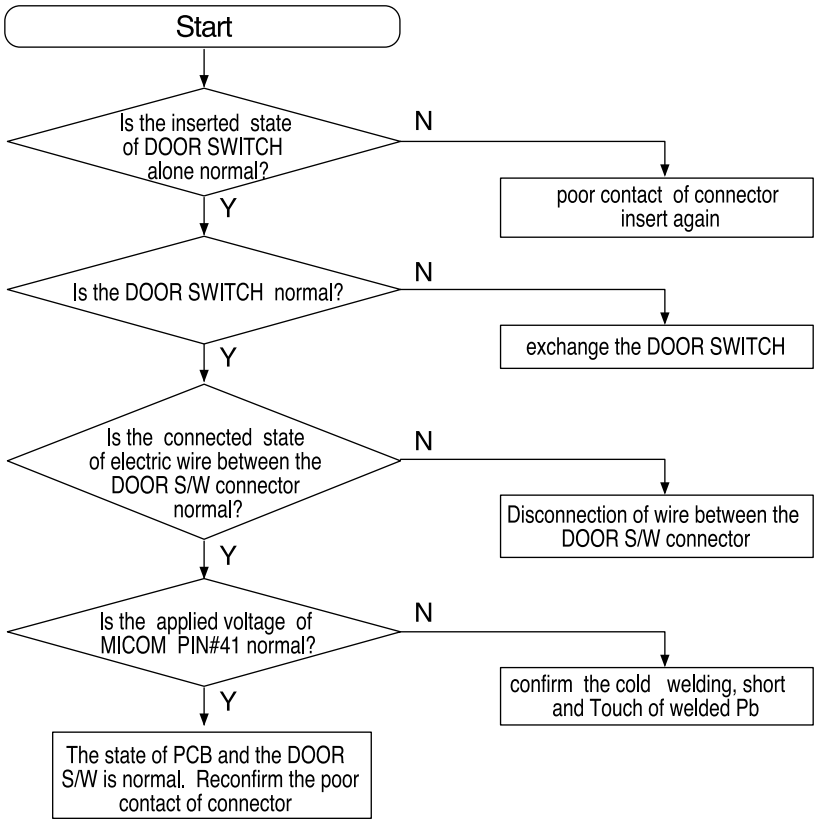
C. When the disorder of R-ROOM SENSOR has occurred


Start
Is the state of R-temperature sensor normal?
N
exchange the temperature sensor
Y
Is the inserted state of MAIN PCB connector normal?
N
bad contact of connector, insert again
Y
Is the connected state of electric wire between the connector sensor of MAIN PCB normal?
N
Disconnection of wire between the connector sensors
Y
Is the applied voltage of MICOM PIN#26 normal?
N
confirm the cold welding, short, disconnection, and welded Pb touch
Y
The state of PCB and temperature sensor is normal. Reconfirm the poor contact of connector

D. When the disorder of DAMPER REED S/W has occurred


Start
Is the inserted state of REED SWITCH normal?
N
poor contact of connector, insert again
Y
Is the REED SWITCH alone normal?
N
exchange the REED SWITCH
Y
Is the connected state of electric wire between the REED S/W connector normal?
N
Disconnection of wire between the REED S/W connector
Y
Is the applied voltage of MICOM PIN#29 normal?
N
confirm the cold welding, short and the TOUCh of welded Pb
Y
The state of PCB and the REED S/W is normal. Reconfirm the poor contact of connector

E. When the disorder of DOOR S/W has occurred

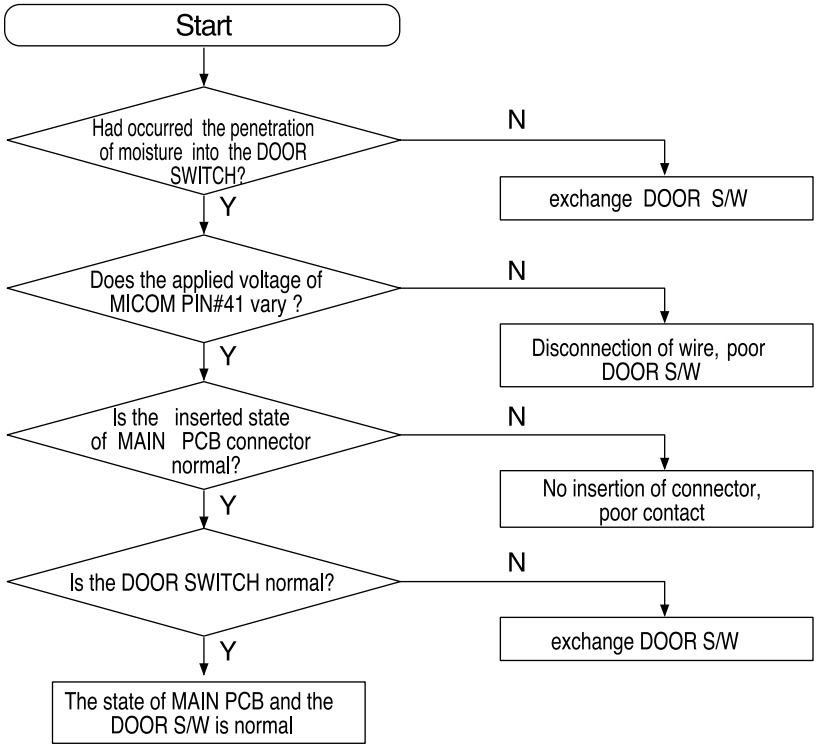

Start
Is the inserted state of DOOR SWITCH alone normal?
N
poor contact of connector insert again
Y
Is the DOOR SWITCH normal?
N
exchange the DOOR SWITCH
Y
Is the connected state of electric wire between the DOOR S/W connector normal?
N
Disconnection of wire between the DOOR S/W connector
Y
Is the applied voltage of MICOM PIN#41 normal?
N
confirm the cold welding, short and Touch of welded Pb
Y
The state of PCB and the DOOR S/W is normal. Reconfirm the poor contact of connector

9-3. When BUZZER sounds is generated continuouly

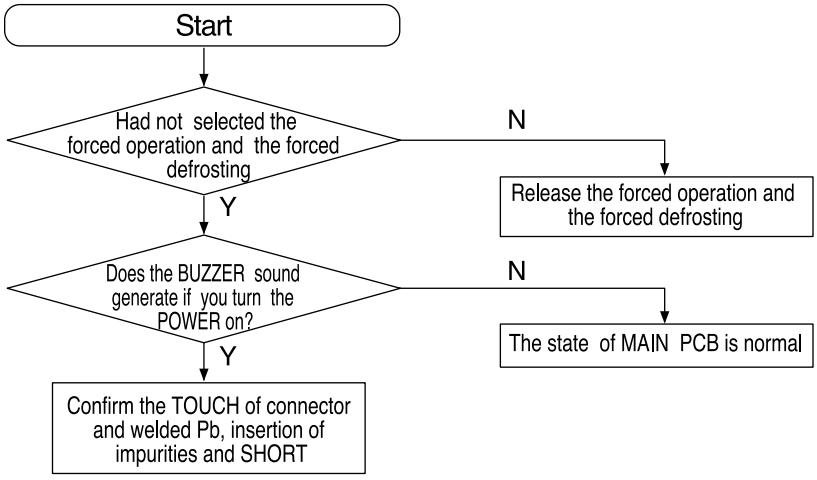
References

- DOOR OPEN WARNING of refrigerator compartment alarms for 10 seconds after 2 minutes when DOOR opened initially. If the door is opened continuously it is alarmed for 10 seconds with a period of 10 seconds.
- Because the penetration of moisture or vapor into DOOR S/W causes the junction SHORT of DOOR S/W, the warning is alarmed continuously by judgement of MICOM which regards the DOOR as open state.In this case, DOOR is regarded as continuously opened state after 10 minutes and the lamp of refrigerator is set to be OFF. So if you open the DOOR, the lamp of refrigerator is maintained as OFF state.
- If the moisture or vapor penetrates into the junction and corrodes it, the lamp of refrigerator is kept as OFF state and DOOR OPEN warning does not work because the signal does not inputted to the MICOM.

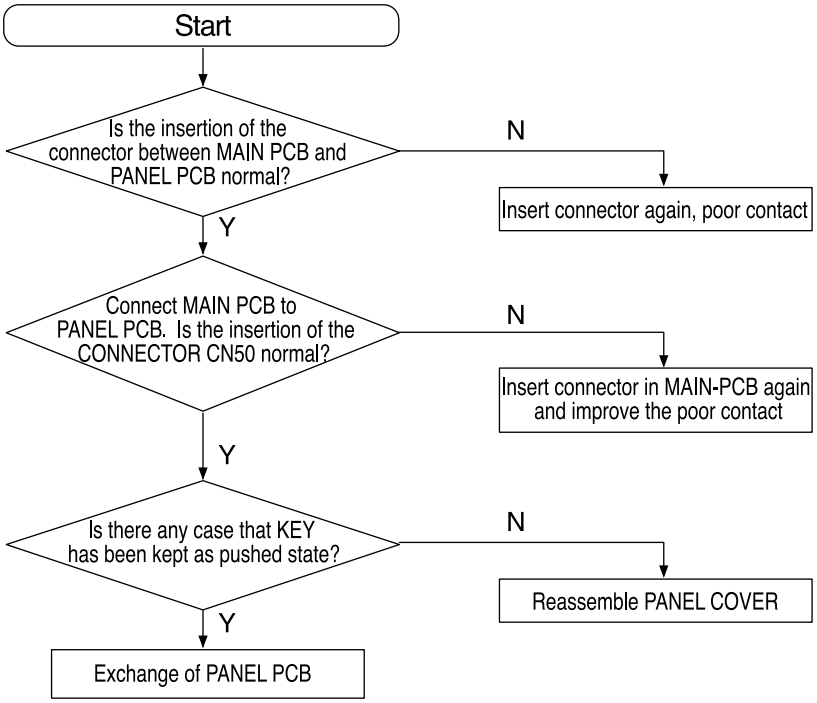
A. When “Ding-Dong” sound is generated continuously.



B. When the beeper sound is generated continuously

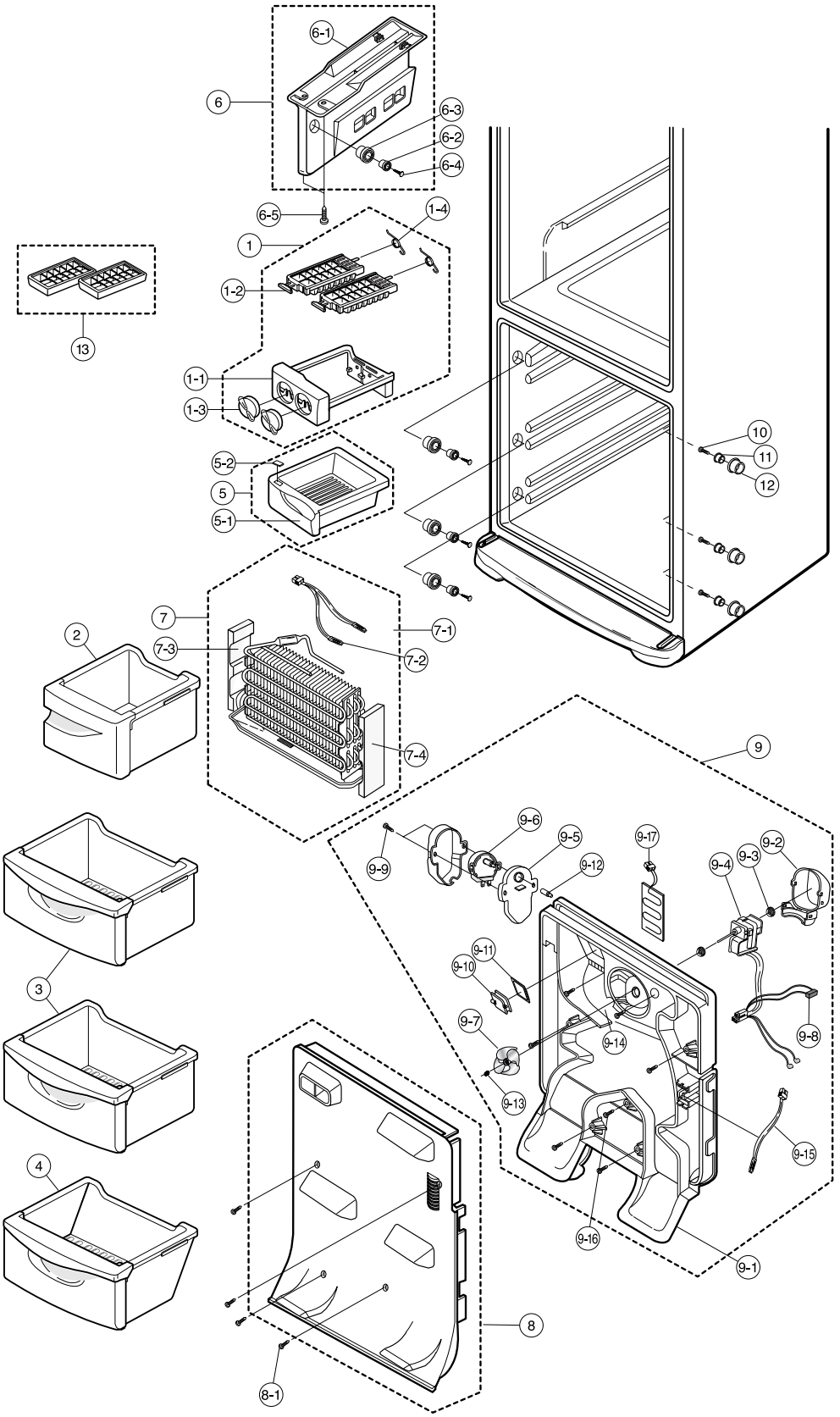

Start
Had not selected the forced operation and the forced defrosting
N
Release the forced operation and the forced defrosting
Y
Does the BUZZER sound generate if you turn the POWER on?
N
The state of MAIN PCB is normal
Y
Confirm the TOUCH of connector and welded Pb, insertion of impurities and SHORT

C. When the KEY of PANEL-PCB has not been selected.


Start
Is the insertion of the connector between MAIN PCB and PANEL PCB normal?
N
Insert connector again, poor contact
Y
Connect MAIN PCB to PANEL PCB. Is the insertion of the CONNECTOR CN50 normal?
N
Insert connector in MAIN-PCB again and improve the poor contact
Y
Is there any case that KEY has been kept as pushed state?
N
Reassemble PANEL COVER
Y
Exchange of PANEL PCB

10. Parts List

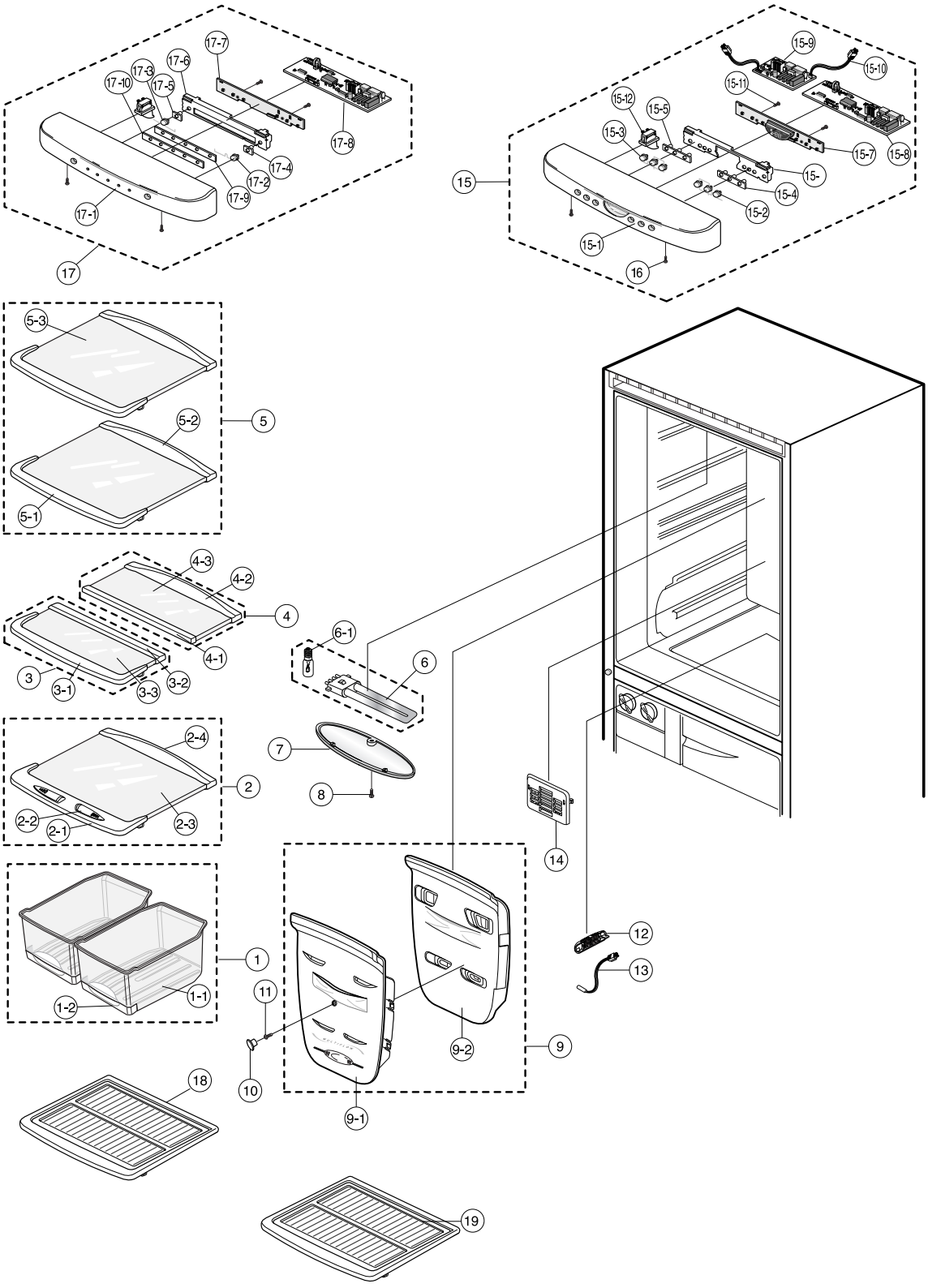
10-1. Freezer Compartment



■ Freezer List

NO	CODE-NO	ITEM	SPECIFICATION	Q'TY	REMARK
1	DA66-00087A	TRAY ICE-ASSY	HIPS,SRL36,L39	1	
1-1	DA71-00108A	FIXER-TRAY ICE	HIPS,W9540,SRL36,L39	1	
1-2	DA66-00071A	TRAY-ICE	SRL36,L39,W9540	2	
1-3	DA64-00158A	KNOB-TRAY ICE	HIPS,W9540,SRL36,L39	2	
1-4	DA61-20136A	SPRING-ICE MAKER	STS304,ID1.0,PI10.5,SR-53E	2	
2	DA66-00086A	TRAY FRE-C-ASSY	SRL36,L39	1	
3	DA66-00091A	TRAY FRE-A-ASSY	WHT	2	
	DA66-00091B	TRAY FRE-A-ASSY	TRANSE PARENT	1	
4	DA66-00092A	TRAY FRE-B-ASSY	WHT	1	
	DA66-00092B	TRAY FRE-B-ASSY	TRANSE PARENT		
5	DA66-00101A	TRAY-ICE,CUBE, ASSY	SRL36,L39	1	
5-1	DA66-00056A	TRAY-ICE,CUBE	SRL36,L39	1	
5-2	DA67-00302A	CAP-TRAY-ICE,CLUB		1	
6	DA61-00137A	SUPPORT-RAIL ASSY	HIPS,WHT,SRL36,L39	1	
6-1	DA61-00082A	SUPT-RAIL	HIPS,SRL36,L39,WHT	1	
6-2	DA66-00052A	ROLLER-FRE-A	POM,SRL36,L39	1	
6-3	DA66-00053A	ROLLER-FRE-B	POM,SRL36,L39	1	
6-4	6002-000215	SCREW-TAPPING	TH-1S,M4XL16,ZPC(YEL),MSWR1	1	
6-5	6002-000213	SCREW-TAPPING	TH,M4,L12,ZPC(YEL),SWRCH18	2	
7	DA96-00015A	EVAP ASSY	SRL36,L39,FIN,A1100P-H24,240V,310W	1	
	DA96-00015B	EVAP ASSY	SRL36,L39,FIN,A1100P-H24,220V,310W	1	
	DA96-00024A	EVAP ASSY	SRL36,L39,FIN,A1100P-H24,127V,310W	1	
7-1	DA32-10105Q	SENSOR ASSY	502AT,COMBI-PJT,300,YELLOW,F-DEF-SENSOR	1	
7-2	DA47-10162F	THERMO FUSE	250V,10A,72	1	
7-3	DA60-00053A	SPACER-EVAP,L	127V EVAP ASSY	1	
7-4	DA60-00054A	SPACER-EVAP,I	127V EVAP ASSY	1	
8	DA63-00395E	COVER-EVAP FRONT-ASSY	TWIST,PP	1	
	DA63-00395F	COVER-EVAP FRONT-ASSY	NORMAL,PP	1	
8-1	6002-000215	SCREW-TAPPING	TH,1,M4.0,L16,ZPC(YEL),MSWR1	4	
9	DA63-00396R	COVER EVAP REAR-ASSY	240V/50Hz	1	
	DA63-00396S	COVER EVAP REAR-ASSY	220v/50,60Hz	1	
	DA97-00150A	COVER EVAP REAR-ASSY	127V/60Hz	1	
9-1	DA63-00237A	COVER-EVAP REAR	PP,NTR,SRL36,L39,T1.5	1	
9-2	DA61-00081A	CASE-MOTOR	PP,SRL36,L39,NTR	1	
9-3	DA63-40119A	GROMMET-MOTOR	NBR,BLK	2	
9-4	DA31-00002P	MOTOR-FAN	240V/50Hz, 2550 rpm	1	
	DA31-00002U	MOTOR-FAN	220V/50Hz, 2550 rpm	1	
	DA31-00002X	MOTOR-FAN	127V/60Hz, 2550 rpm	1	
9-5	DA61-00117A	CASE-G-MOTOR	PP,SRL36,L39,NTR	1	
9-6	DA31-10107C	MOTOR-GEARD	M2LA49Z,220V,SR-41~518	1	
	DA31-10107B	MOTOR-GEARD	M2BC59ZR12,110V	1	
9-7	DA31-00019A	FAN-PROPELLER	SRL36,L39,NTR	1	
9-8	DA34-10125B	SWITCH SENSITIVE	5V,Black	1	
9-9	6002-000467	SCREW	PH-2S 4X10 YEL	2	
9-10	DA31-00026A	BLADE	PC,NTR,SRL36,L39	1	
9-11	DA63-00359A	GASKET-BLADE	SILICON	1	
9-12	DA66-00095A	SHAFT-BLADE ASSY	POM,SRL36,L39	1	
9-13	DA61-20128A	SPRING-FAN	STS27,ID1.0	1	
9-14	6002-000215	SCREW-TAPPING	TH,1,M4.0,L16,ZPC(YEL),MSWR1	2	
9-15	DA32-10109P	SENSOR-ASS'Y	502AT	1	
9-16	6006-001083	SCREW ASSY TAPP	TH,M4,L16,ZPC(YEL),SWRCH18	1	
9-17	DA47-00056A	HEATER-EVAP COVER,RE	240V	1	
	DA47-00056B	HEATER-EVAP COVER,RE	220V	1	
	DA47-00056C	HEATER-EVAP COVER,RE	127V	1	
10	6002-000215	SCREW-TAPPING	TH,1,M4.0,L16,ZPC(YEL),MSWR1	6	
11	DA66-00052A	ROLLER-FRE-A	POM	6	
12	DA66-00053A	ROLLER-FRE-B	POM	6	
13	DA67-40146B	TRAY ICE	PE, NTR, SR-1500	2	

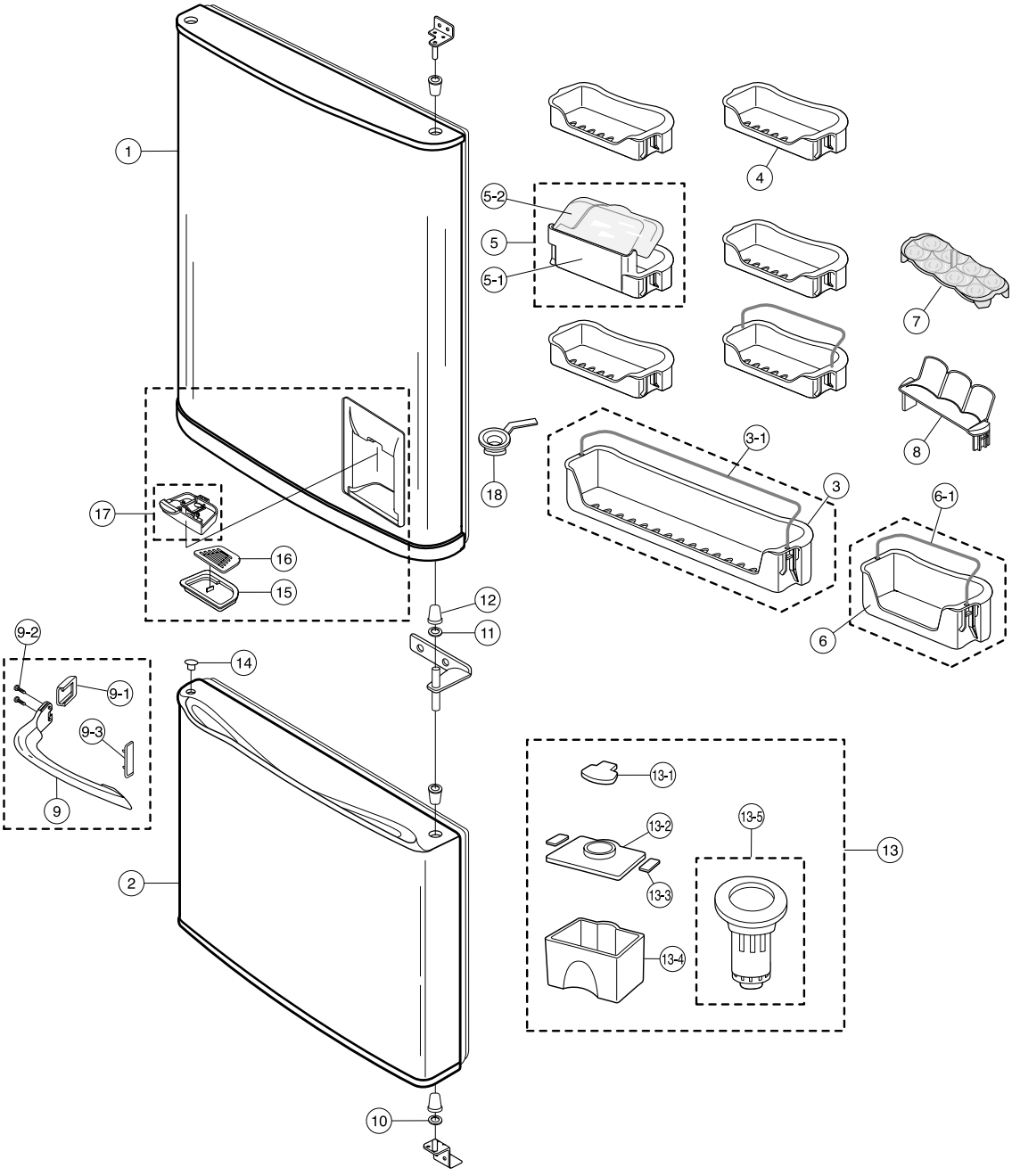
10-2. Refrigerator Compartment



■ Refrigerator List

NO	CODE-NO	ITEM	SPECIFICATION	Q'TY	REMARK
1	DA61-00126B	BOX-VEG ASS,Y		2	
1-1	DA69-00102B	BOX-VEG	GPPS	2	
1-2	DA67-00203A	CAP-VEG	HIPS	2	
2	DA67-00272A	SHELF-VEG ASSY	GLESS	1	
2-1	DA64-00119A	TRIM-SHELF-FRONT, LOW	PP,W9540	1	
2-2	DA66-00061A	LEVER-HUMIDITY	PP,WHT	2	
2-3	DA67-20346K	SHELF GALSS	GLASS,T4	1	
2-4	DA64-00116A	TRIM-SHELF REAR-A	P.P,BJ-730T4	1	
3	DA67-00268A	SHELF REF-B-ASSY	GLASS,,T4	1	
3-1	DA64-00114A	TRIM-SHELF REF-FRONT	P.P,BJ-730T4	1	
3-2	DA64-00115A	TRIM-SHELF REAR-B	PP,W9540	1	
3-3	DA67-20346J	SHELF GALSS	GLASS,T4	1	
4	DA67-00270A	SHELF REF-C-ASSY	GLESS	1	
4-1	DA64-00115A	TRIM-SHELF REAR-B	P.P,W9540	1	
4-2	DA64-00116A	TRIM-SHELF REAR-A	P.P,BJ-730T4	1	
4-3	DA67-20346J	SHELF GALSS	GLASS,T4	1	
5	DA67-00269A	SHELF REF-A-ASSY	GLESS	3	
5-1	DA64-00114A	TRIM-SHELF REF-FRONT	P.P,BJ-730T4	3	
5-2	DA64-00116A	TRIM-SHELF REAR-A	P.P,BJ-730T4	3	
5-3	DA67-20346H	SHELF GALSS	GLASS,T4	3	
6	4713-001041	LAMP-FLUORESCENT	220V,150mA,11W	1	
6-1	4713-001140	LAMP-INCANDESENT	240V,25W	1	
	4713-001141	LAMP-INCANDESENT	130V,25W	1	
7	DA63-00235A	COVER-LAMP REF	PP	1	
8	6002-000213	SCREW-TAPPING	TH-1S,M4X12,ZPC(YEL)	1	
9	DA97-00228A	COVER DAMPER-REF ASSY	PP,W-9540	1	
9-1	DA63-00239B	COVER-DAMPER REF	PP,W-9540	1	
9-2	DA72-00170A	SPACER-DAMPER, REF	PS	1	
10	DA67-30266D	CAP-SCREW	PP	1	
11	6002-000215	SCREW-TAPPING	TH-1S,M4X12,ZPC(YEL)	1	
12	DA63-10467A	COVER-SENSOR	HIPS	1	
13	DA32-10105B	SENSOR-ASSY	502AT	1	
14	DA63-00234A	COVER-SUCTION, REF	PP,W9540	1	
15	DA63-00870A	COVER-TOP TABEL ASSY	HIPS,SC-97527R	1	
15-1	DA63-00245B	COVER-TOP TABLE ASSY	ABS,SC-97527R,IN HOUSE	1	
15-2	DA64-00118A	BUTTON-PCB, R	ABS,SC-97527R	1	
15-3	DA64-00117A	BUTTON-PCB, L	ABS,SC-97527R	1	
15-4	DA63-00371A	GASKET-BUTTON PCB,R	MBR	1	
15-5	DA63-00390A	GASKET-BUTTON PCB,L	MBR	1	
15-6	DA70-00138A	PLATE-EARTH	SBHG1	1	
15-7	DA41-00014A	PBA-PANEL	COMBI	1	
15-8	DA41-00018B	PBA-MAIN	COMBI	1	
15-9	DA41-00013A	PBA-SUB	240V	1	
	DA41-20160B	PBA-SUB	127V	1	
15-10	DA39-00112A	WIRE HARNESS-INVERTER	INVERTER	1	
15-11	6002-000213	SCREW-TAPPING	TH-1S,M4X12,ZPC(YEL)	2	
15-12	DA34-00015C	SWITCH-DOOR	H3005CL,250V,25W	1	
16	6001-000366	SCREW-MACHING	FH,M4X10,CR PLT,STS304	2	
17	DA97-00526A	COVER TOP TABLE,ASSY	SEMI	1	
17-1	DA63-00328B	COVER TOP TABLE	≥≠ø¨ ABS	1	
17-2	DA64-00180B	BUTTON PCB,R	ABS,SC-97527R	1	
17-3	DA64-00180A	BUTTON PCB,L	ABS,SC-97527R	1	
17-4	DA63-00375A	GASKET-BUTTON PCB,R	NBR,BLACK	1	
17-5	DA63-00375A	GASKET-BUTTON PCB,L	NBR,BLACK	1	
17-6	DA70-00208A	PLATE-EARTH	COMBI	1	
17-7	DA41-00043A	PAN-PCB	COMBI	1	
17-8	DA41-00042A	MAIN-PCB	COMBI	1	
17-9	DA67-00329A	COVER DISPLAY	GPPS	1	
17-10	DA67-00444A	GASKET-WINDOW	NBR	1	
18	DA67-00206A	SHELF-REF LOW	GPPS(HF-2660),NTR	1	
19	DA67-00207A	SHELF-REF	GPPS(HF-2660),NTR,SRL36,L39	4	

10-3. Door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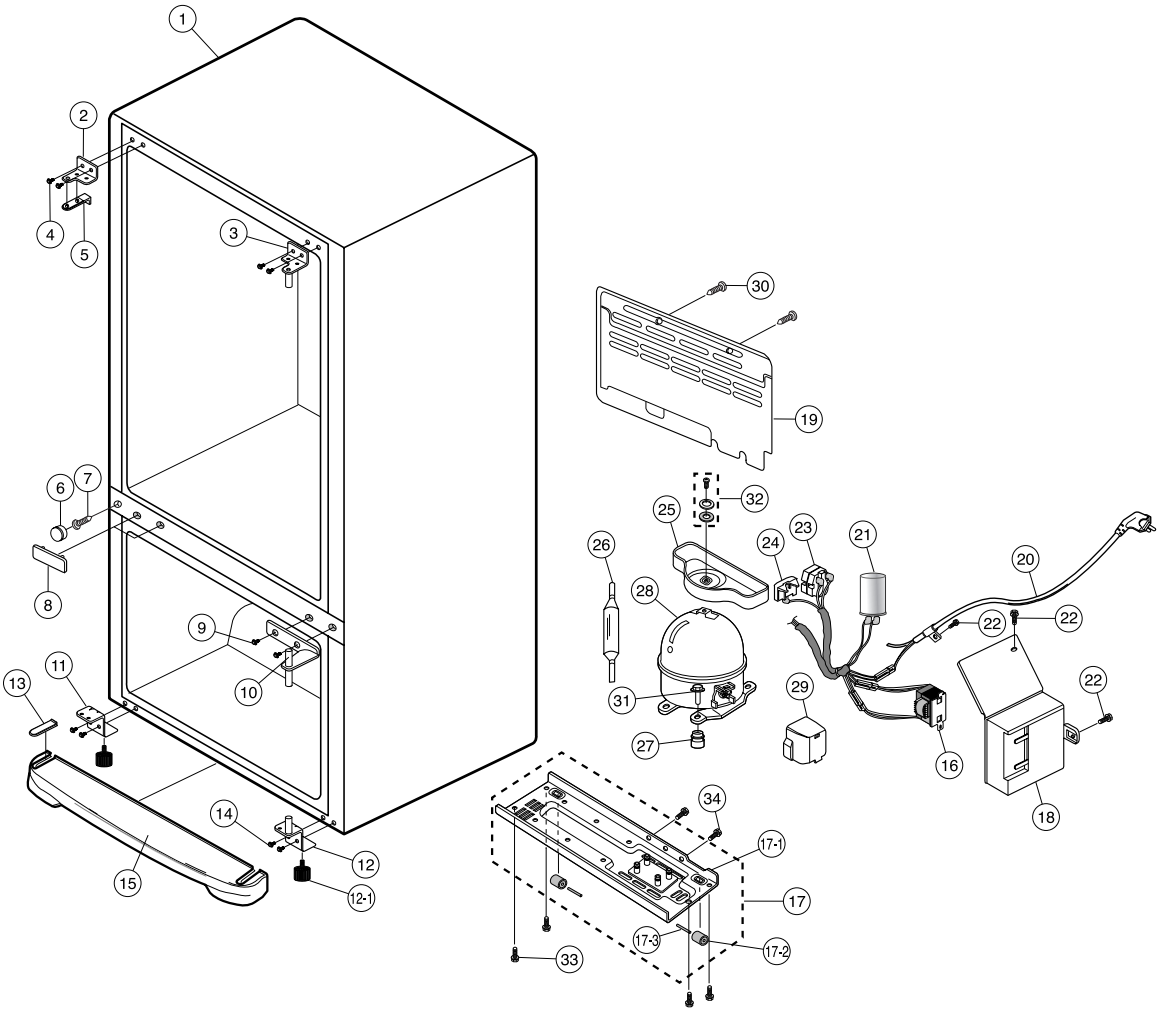
■ Door List

NO	CODE-NO	ITEM	SPECIFICATION	Q'TY	REMARK
1	DA91-00711A	ASSY DOOR FOAM REF, DISP	SRL39, RICH-ROUND, COOLN'COOL	1	
	DA91-00711B	ASSY DOOR FOAM REF, DISP	SRL39, RICH-ROUND, COOLTECH DY	1	
	DA91-00694A	ASSY DOOR FOAM REF	SRL39, RICH-ROUND, COOL N' COOL	1	
	DA91-00694C	ASSY DOOR FOAM REF	SRL39, RICH-ROUND, COOLATRVH DY	1	
	DA91-00697A	ASSY DOOR FOAM REF	SRL39, RICH-ROUND, BAR-HANDLZ	1	
	DA91-00694B	ASSY DOOR FOAM REF	SRL39, RICH-ROUND, COOOOLATRVH DY	1	
	DA91-00694D	ASSY DOOR FOAM REF	SRL39, RICH-ROUND, COOLTECH DY	1	
	DA91-00697B	ASSY DOOR FOAM REF	SRL39, RICH-ROUND, BAR-HAUDLZ	1	
2	DA91-00699A	ASSY DOOR FIANM FEF	SRL36,39, RICH-ROUND, RECZSS	1	
	DA91-00699B	ASSY DOOR FIANM FEF	SRL36,39, RICH-ROUND, RECZSS	1	
	DA91-00699C	ASSY DOOR FIANM FEF	SRL36,39, RICH-ROUND, RECZSS	1	
	DA91-00701A	ASSY DOOR FIANM FEF	SRL36,39, RICH-ROUND, BAR-HANDLZ	1	
	DA91-00701B	ASSY DOOR FIANM FEF	SRL36,39, RICH-ROUND, BAR-HANDLZ	1	
3	DA63-00228A	GUARD-BOTTLE	GPPS(HF-2660),SD-97527R,SRL36,L39,WHT	1	
	DA63-00228B	GUARD-BOTTLE	GPPS(HF-2660),TRANSPARENT	1	
3-1	DA71-00118A	GUARD-BOTTLE	MSWR10,SNC2,SRL36,L39,PI5.5	1	
4	DA63-00227A	GUARD-VARIETY	REF,GPPS,SC-97527R,SRL36,L39,WHT	5	
	DA63-00227B	GUARD-VARIETY	REF,GPPS,TRANSPARENT	5	
5	DA63-00405A	GUARD-DAIRY ASSY	REF,GPPS,SC-97527R,SRL36,L39,WHT	1	
	DA63-00405B	GUARD-DAIRY ASSY	REF,GPPS,TRANSPARENT	1	
5-1	DA63-00229A	GUARD-DAIRY	REF,GPPS,SC-97527R,SRL36,L39,WHT	1	
	DA63-00229B	GUARD-DAIRY	REF,GPPS,TRANSPARENT	1	
5-2	DA63-00230A	COVER-DAIRY	GPPS,SRL36,L39	1	
6	DA63-00263A	GUARD-BOTTLE-DISP	GPPS,W9540,SRL39,WHT	1	
	DA63-00263B	GUARD-BOTTLE-DISP	GPPS,TRANSPARENT	1	
6-1	DA71-00119A	GUARD-BOTTLE-B	MSWR10,SNC2,SRL39(D),PI5.5	1	
7	DA66-00058A	TRAY-EGG	SRL36,L39,S.S	1	
8	DA63-00380A	GUARD-CAN CARRY	ABS(HG-0760)	1	
9	DA64-00157A	HANDLE BAR(FAT)	ABS(HG-0760S),W-97527R,SRL39	1	
9-1	DA67-00216A	CAP-HANDLE	ABS(HG-0760),W-97527R,SRL39	1	
9-2	6001-000715	SCREW-MACHINE	TH,+,M5 $\times$L16,SWRCH18A	2	
9-3	DA67-00298A	CAP HOLE HANDLE BAR	ABS(HG-0760S),WHT(SC-97527R)	1	
10	DA61-00083A	HINGE-WASHER,LOW	POM(TP-20),NTR	1	
11	DA66-00073D	SHAFT-WASHER,D	T2.0,RD-PVC,N.T.R,SRL36,L39	1	
12	DA63-00247A	GROMMET-HINGE	NY-66,NTR,SRL36,L39,S.S	4	
13	DA74-00054A	TANK WATER-ASSY	PP,SRL39	1	
13-1	DA67-30216A	CAP-COVER WATER	PE,WHT	1	
13-2	DA63-00240A	COVER-WATER TANK	PP,SRL39,S.S	1	
13-3	DA65-20004A	CLAMP-TANK	P.C	2	
13-4	DA74-00051A	TANK WATER	PP,SRL39	1	
13-5	DA61-00139A	CASE-COCK ASSY	ABS,SC-97527R,SRL39,DISP	1	
14	DA67-00194A	CAP-HINGE HOLE	PP,SC-97527R,WHT	1	
15	DA66-00054A	TRAY-DISPENSER-A	ABS(HG-0760H),SRL39,W-97527,S.S,WHT	1	
16	DA66-00055A	TRAY-DISPENSER-B	ABS(HG-0760H),SRL39,W-97527,S.S,WHT	1	
17	DA63-00376A	COVER DISPENSER-ASSY	SRL39	1	
18	DA71-20155B	FIXER-CASE,ASSY	ABS,SR-L5285,L5785,SC-9343	1	

10-4. Cabinet Parts & Unit



■ Cabinet Parts & Unit Lists

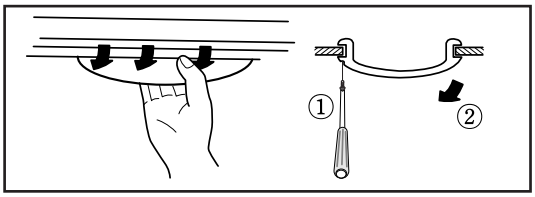
NO	CODE-NO	ITEM	SPECIFICATION	Q'TY	REMARK
1	—	ASSY CABI FOAM	—	—	
2	DA61-00075A	HINGE-UPPER-L	SHP1,SRL36,L39,ZPC2	1	
3	DA61-00073A	HINGE-UPPER ASSY-R	SHP1,SRL36,L39,ZPC2	1	
4	DA60-10123E	SCREW-TAP TITE	HH,M6,L19,ZPC2-W,GSD 3KM	4	
5	DA67-00196A	CAP-HINGE HOLE-UPP	PP,SC-97527R,WHT	1	
6	DA67-30218R	CAP-SCREW	ABS,SC-97527	1	
7	DA60-00003A	SCREW-TAP,PH	PH,TAPPING,4X10	1	
8	DA67-00195A	CAP-HINGE HOLE-MID	PP,SC-97527R,WHT	1	
9	DA60-10123E	SCREW-TAP TITE	HH,M6,L19,ZPC2-W,GSD 3KM	2	
10	DA61-00146A	HINGE MID ASSY	SRL36,L39	1	
11	DA61-00128A	HINGE-LOW-L-ASSY	SHP1,SRL36,L39,ZPC2	1	
12	DA61-00127A	HINGE-LOW,R-ASSY	SHP1,SRL36,L39,ZPC2	1	
12-1	DA61-00084A	FOOT-FRONT	PP,NTR,SRL36,L39	2	
13	DA67-00197A	CAP-HINGE HOLE-LOW	PP,SC-97527R,WHT	1	
14	DA60-10124A	SCREW-TAP TITE	HH,M6,L16,ZPC2-Y	4	
15	DA63-00241A	COVER-LEG,FR	SC-97527R	1	
16	DA26-00003A	TRANS DC	240V,50/60Hz	1	
	DA26-00003B	TRANS DC	127V,50/60Hz	1	
17	DA71-00109A	CHASSIS-COMP ASSY	SBHG1	1	
17-1	DA71-00101A	CHASSIS-COMP	SBHG1	1	
17-2	DA61-40115B	CASTER-FRONT	PP,NTR,SR-50	2	
17-3	DA60-90124A	RIVET	MSWR10,OD6.0,L56,ZPC3	2	
18	DA61-00089A	CASE-JUNCTION	PP,SRL36,L39,S.S,NTR	1	
19	DA63-00398A	COVER COMP-ASSY	SBHG1,SRL39	1	
20	-	POWER-CODE	-	1	OPTION
21	2501-001185	C-OIL	3.5㎌,350V	1	
	2501-001185	C-OIL	5㎌,350V	1	
	2501-001045	C-OIL	12㎌,250V	1	
22	6002-001118	SCREW-TAPPING	TH,SOCKET(HEX),M4	3	
23	DA35-10013B	RELAY-PTC	J531Q35E330M3852	1	
	DA35-10013E	RELAY-PTC	J531Q33E100M2002	1	
24	DA34-10003H	PROTECTOR-O/L	4TM213PHBYY-53	1	
	DA34-10003N	PROTECTOR-O/L	4TM412PHBYY-53	1	
25	DA66-00031C	TRAY-DRAIN WATER	T3-P/J(2ND),S.S,0.6	1	
26	DA73-30102B	DRYER-ASSY	CU,OD18.85,ID2,L102,2P,10.0G	1	
27	DA63-40004A	GROMMET-COMP	NBR	4	
28	DK4A1Q-L1U	COMPRESSOR	R600a	1	
	SK170H-L1U	COMPRESSOR	R134a	1	
	DK172P-L2U	COMPRESSOR	R134a	1	
29	DA63-10352A	COVER-RELAY	BLK	1	
30	6002-000217	SCREW-TAPPING	TH,4X8,ZPC(YEL),MSWR10	2	
31	DA60-20008A	BOLT-HEX	SM30C,L42.6	4	
32	DA60-00018A	SCREW-ASSY	TH+,STS304	2	
33	DA60-10124A	SCREW-TAP TITE	HH,M6,L16,ZPC2-Y	4	
34	DA60-10107A	SCREW-EARTH	BSBN PT M4X10	2	

11. Disassembly & Assembly

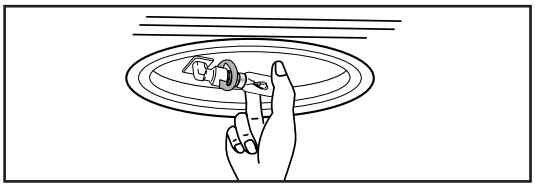
11-1. Replacement of refrigerator Incandescent lamp

Warning
Always take out the power plug when replacing the refrigerator lamp. There is the danger of electric shock.

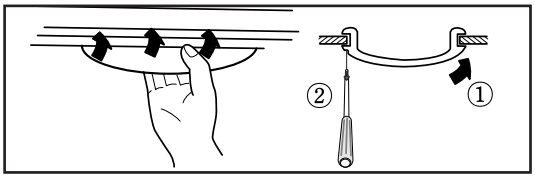
1. Remove a screw from the cover and pull down the cover with the back latch pressed.



2. Pull out the lamp.



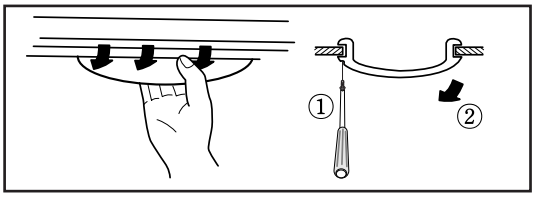
3. After replacing the lamp, assemble the front latch of cover and then connect the back latch and screw on the cover.



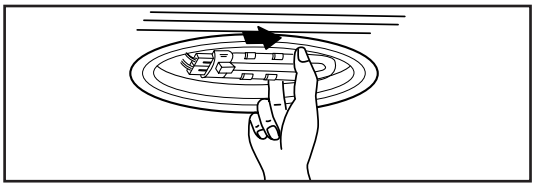
11-2. Replacement of refrigerator fluorescent lamp

Warning
Always take out the power plug when replacing the refrigerator lamp. There is the danger of electric shock.

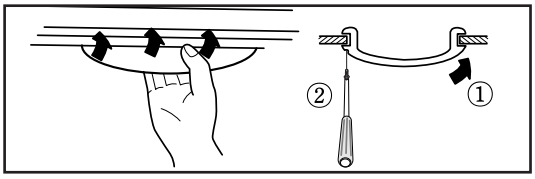
1. Remove a screw from the cover and pull down the cover with the back latch pressed.



2. Pull out the lamp.

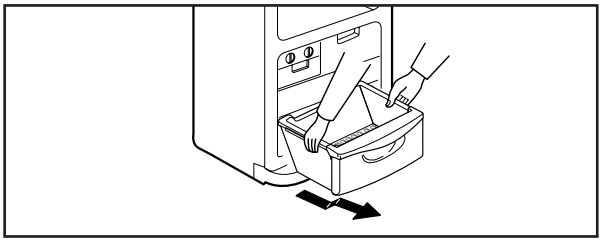


3. After replacing the lamp, assemble the front latch of cover and then connect the back latch and screw on the cover.

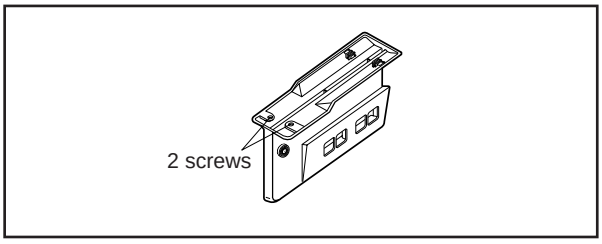


11-3. Disassembly of the cooling cycle unit in the freezer

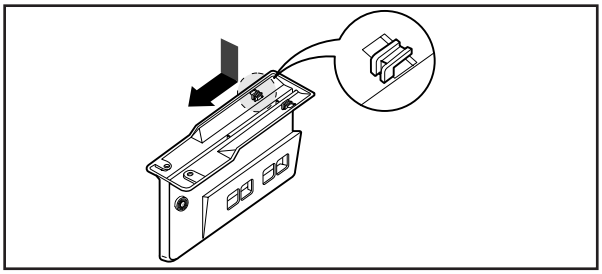
1. Take out the case from the freezer.



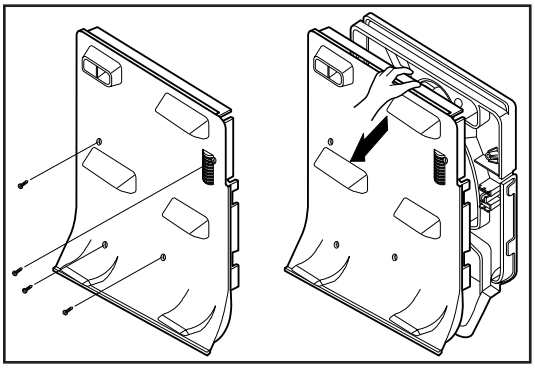
2. Remove 2 screws from the holder of the cooling cycle unit.



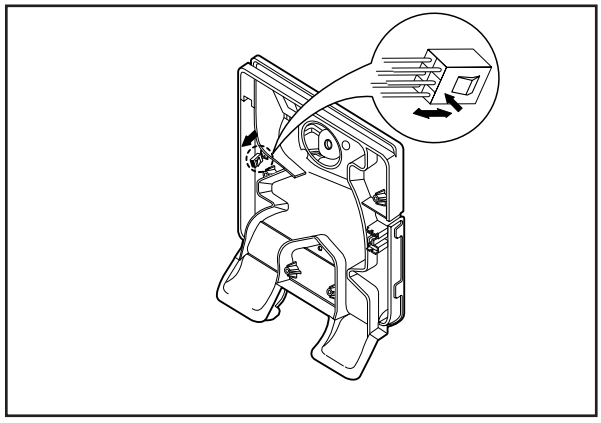
3. Pull out the holder of the cooling cycle unit and disconnect wire terminals.



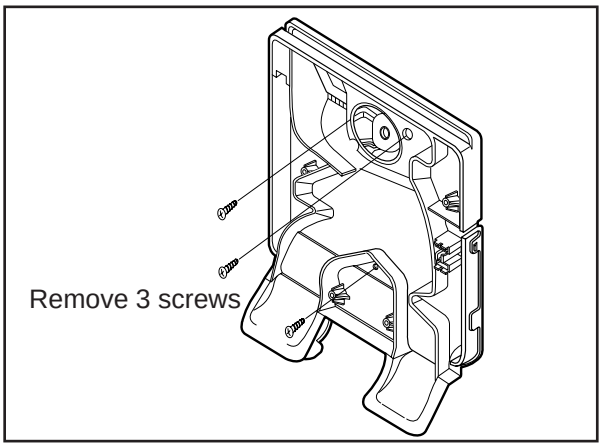
4. Pull forward the insulating material of the cooling cycle unit and remove the wire terminal and insulating material.



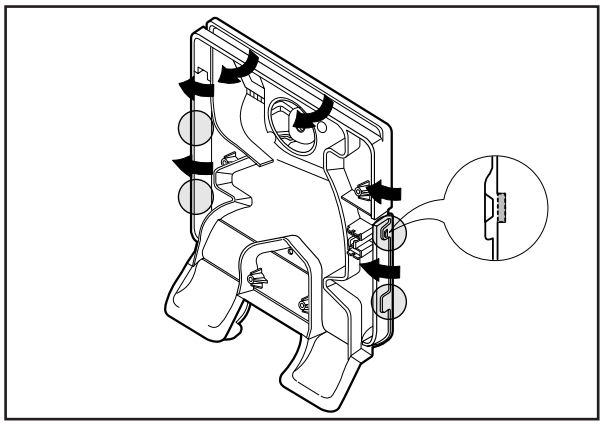
5. Remove 2 screws securing refrigerator duct and pull it out by following the arrow.



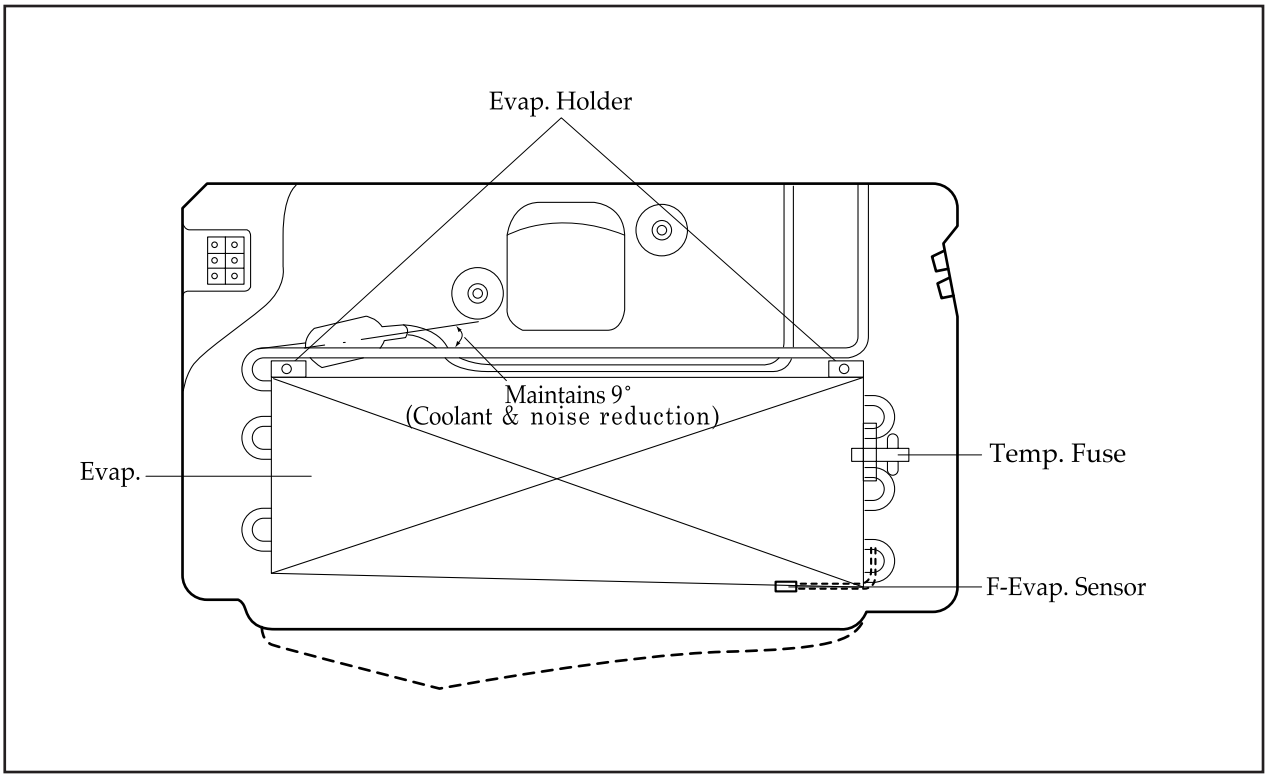
6. Remove 3 screws from the back cover of the cooling cycle unit and remove the latch with (+) driver.



7. Remove the latch of the cooling cycle unit cover from the bottom.

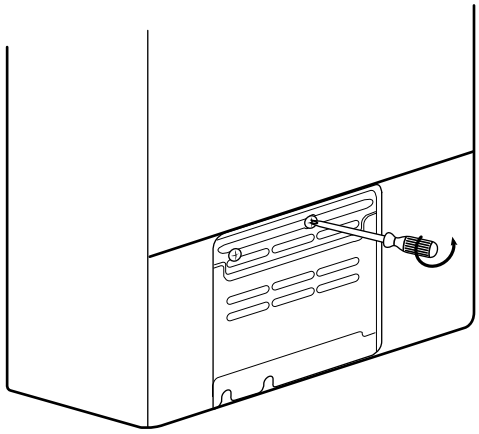


■ Assembly of the cooling cycle unit in the freezer

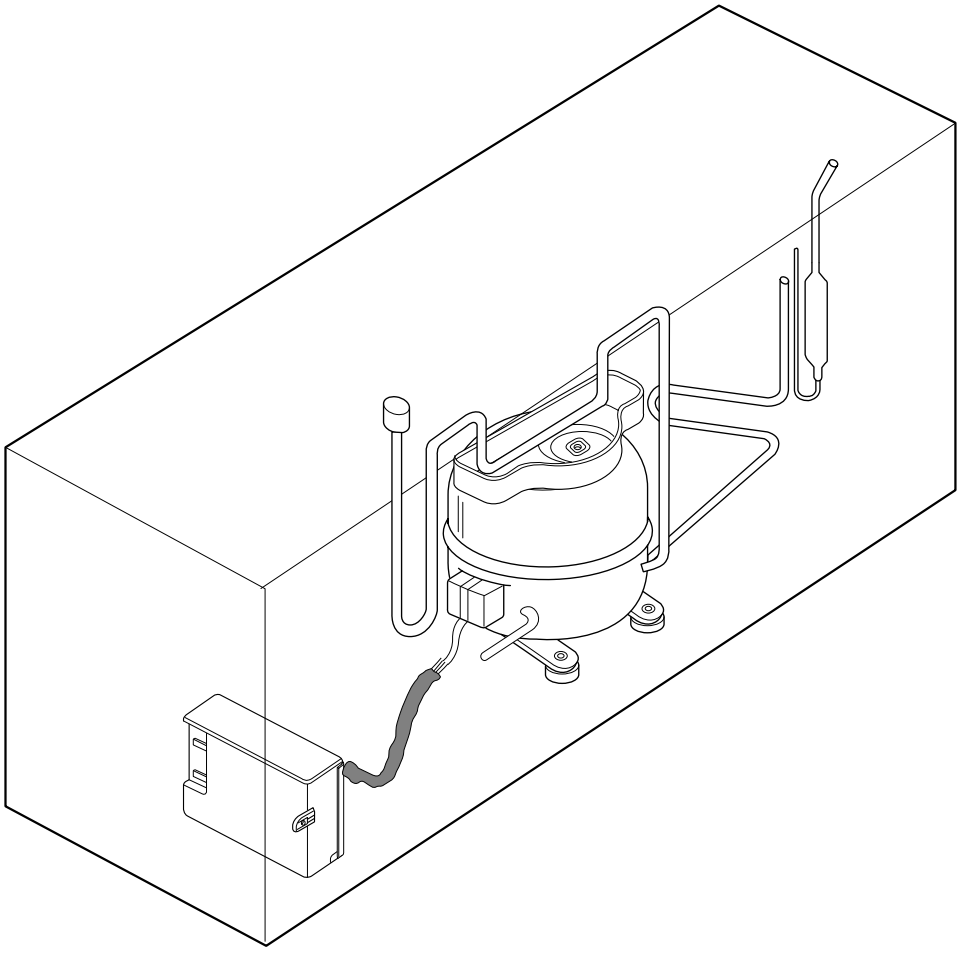


11-4. Assembly of mechanic compartment in the refrigerator

1. Remove the screws from the securing cover of the mechanic compartment at the back bottom.



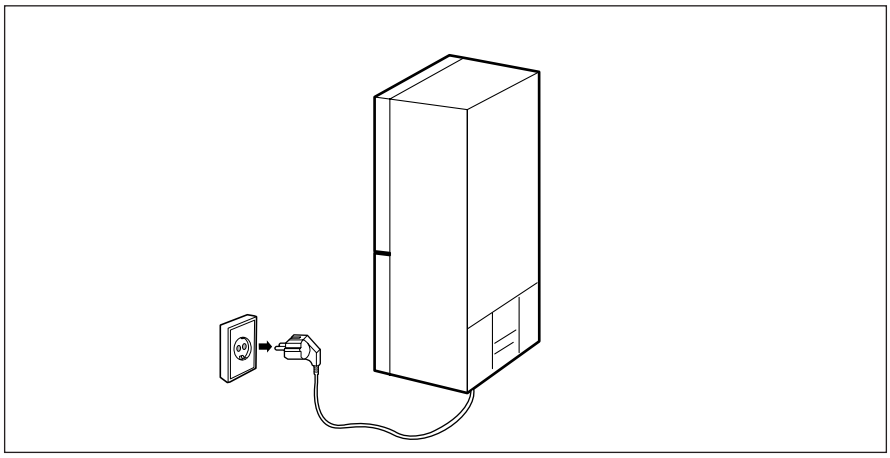
2. Mechanic compartment assembly



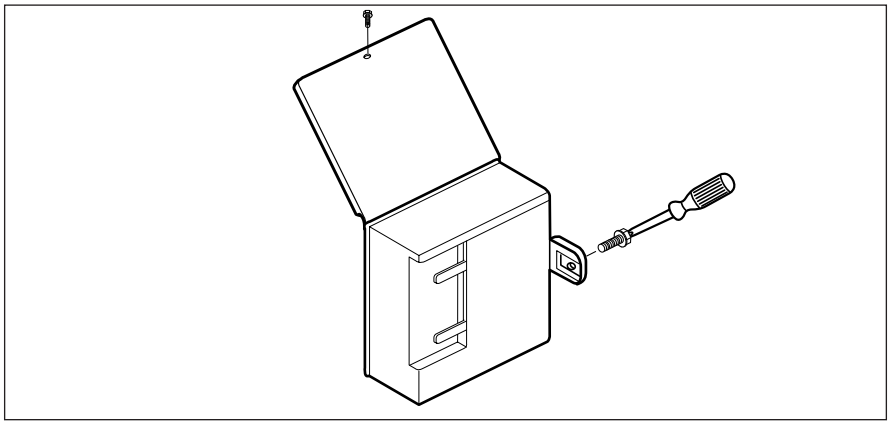
11-5. Electric box assembly

Warning
Make sure the power plug is taken out when replacing the components for the main PCB.

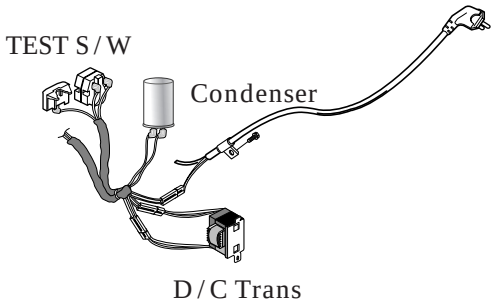
1. Disconnect the power cord.



2. Remove the cover of electrical box with insert driver.(✡)

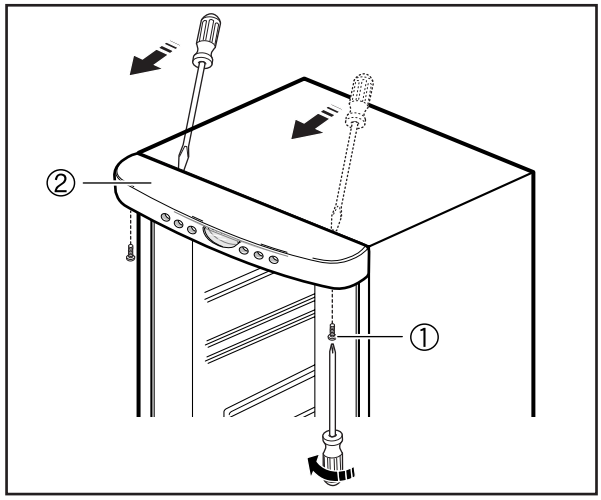


3. Assembly specification of electric box

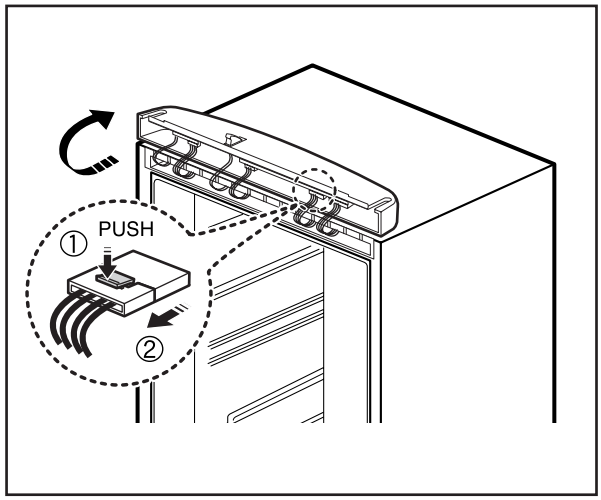


11-6. Disassembly of Top Table

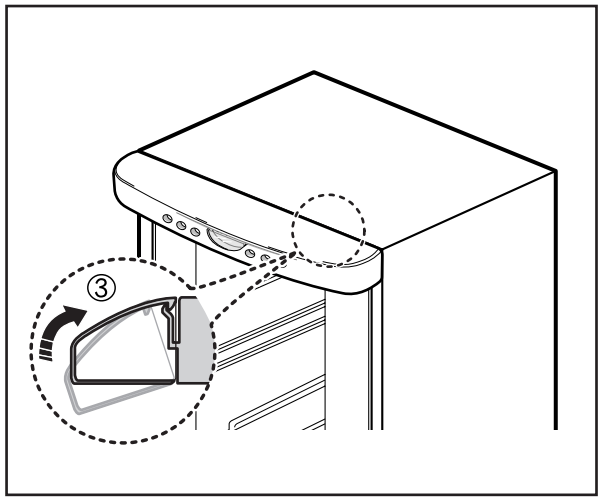
● With the door open, unscrew screws ①
with a screw driver("+" type).
● Lever out top table ②
with a screw driver ("–" type).



● Repair or change electric parts of top table.

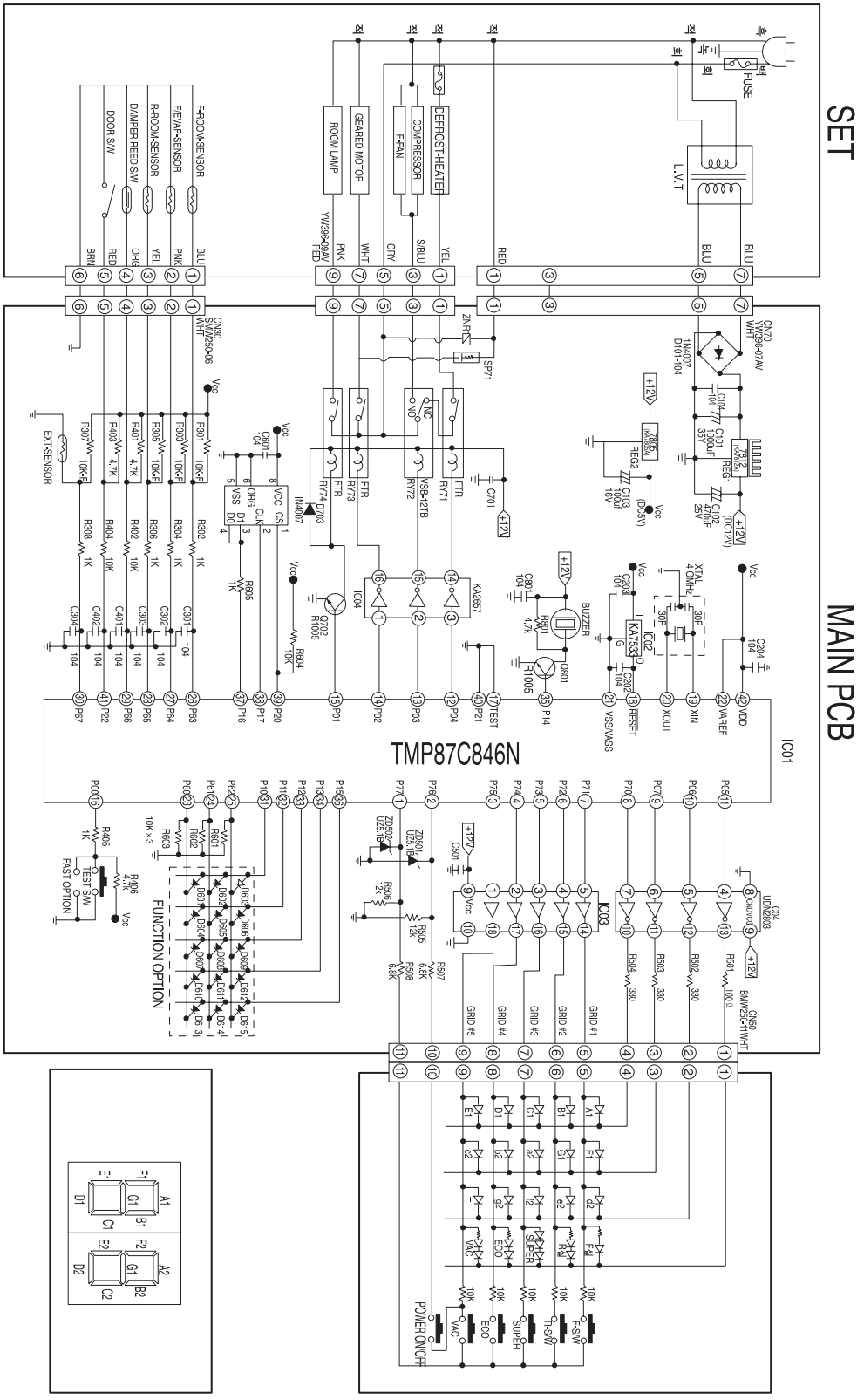


● Attach the top table and click into
hook ③ by pressing.

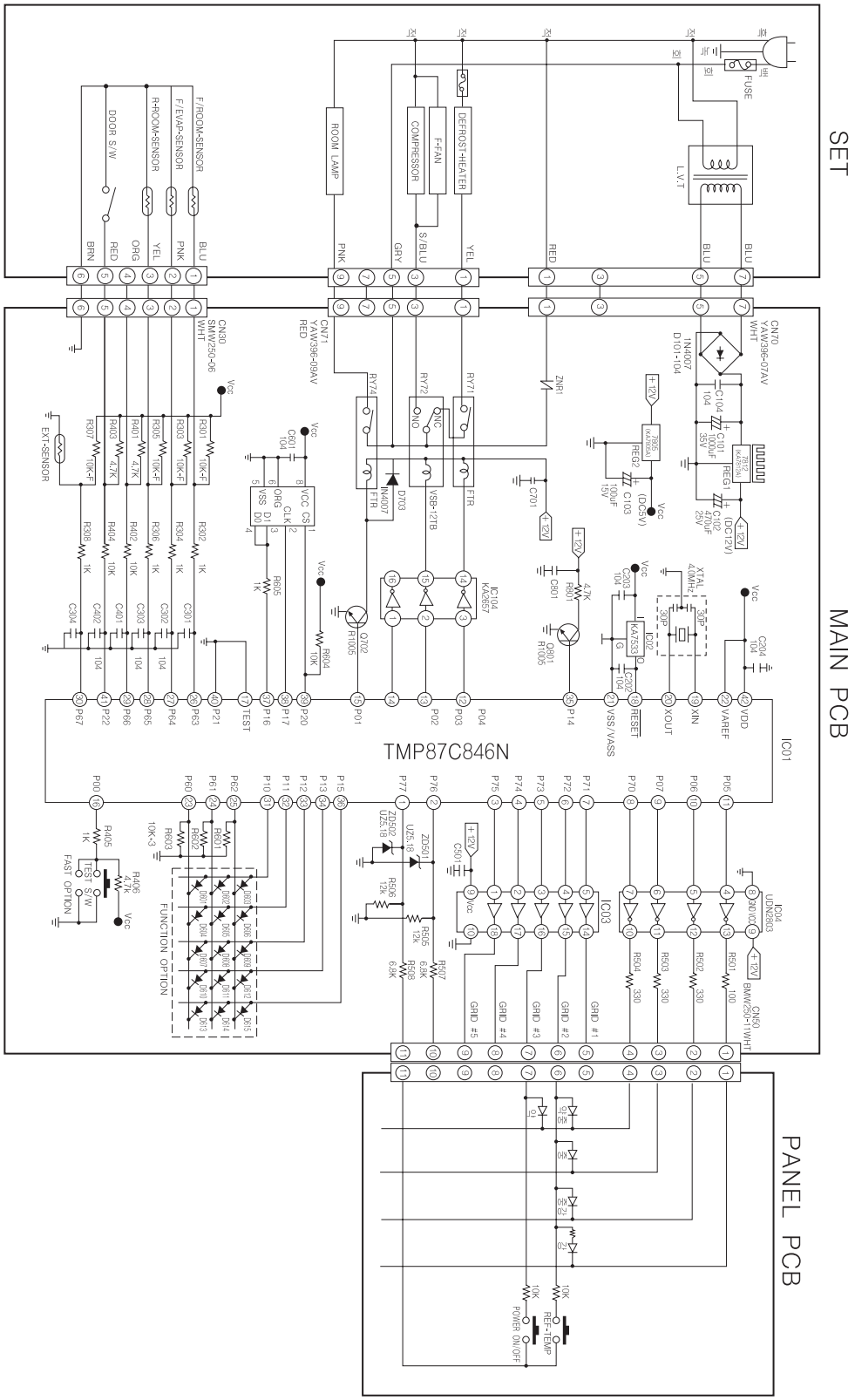


12. PCB Circuit Diagram

12-1. ELECTRONIC MODEL



12-2. SEMI ELECTRONIC MODEL



12-3. Service Parts

NO	CODE-NO	ITEM	STANDARD	COMPANY	Q'ty	Remarks
1	DA41-00018A	MAIN PCB	COMBI-P/J	Kwangju Electronics	1	
	DA41-00042A	MAIN PCB(SEMI)	COMBI-P/J	Kwangju Electronics	1	
	DA41-00042C	MAIN PCB(SEMI(AH/AM))	COMBI-P/J	Kwangju Electronics	1	
2	DA41-00014A	PANEL PCB	COMBI-P/J	Seoul Semiconductor	1	
	DA41-00043A	PANEL PCB(SEMI)	COMBI-P/J	Seoul Semiconductor	1	
3	DA32-10105B	R-SENSOR	502AT	Dong Kwang	1	
4	DA32-10109P	F-SENSOR	502AT	Dong Kwang	1	
5	DA32-10105Q	F DEF-SENSOR	502AT	Dong Kwang	1	
6	DA26-00003A	DC-TRANS	COMBI-P/J	Sigma Telecom	1	
7	DA41-00013A	SUB PCB	COMBI-P/J	YuYu	1	INVERTER PCB

12-4. The Changed Part Lists As Supplying Voltages

NO	ITEM	240V/50Hz		230V/50Hz		220V/50Hz	
		CODE-NO	SPEC.	CODE-NO	SPEC.	CODE-NO	SPEC.
1	THERAFLUOROETHANE	DA02-00038A	R-600a	DA02-40030A	R-134a	DA02-40030A	R-134a
2	COMPRESSOR	DA59-00144A	DK4A1Q-L1U	DA59-00158A	DK172Q-L2U	DA59-00158A	DK172Q-L2U
3	PROTECTOR-O/L	DA34-10003H	4TM213PHBYY-53	DA34-10003K	4TM232SHBYY-53	DA34-10003K	4TM232SHBYY-53
4	C-OIL	2501-001185	3.5uF, 350V	2501-001186	5uF, 350V	2501-001186	5uF, 350V
5	RELAY-PTC	DA35-10031B	J531Q35E330M3852	DA35-10013B	J531Q35E330M3852	DA35-10013B	J531Q35E330M3852
6	DC-TRANS	DA26-00003A	240V/50, 60Hz	DA26-00003A	240V/50, 60Hz	DA26-00003A	240V/50, 60Hz
7	EVAP-ASSY	DA59-00118B	240V, 310W	DA59-00118B	240V, 310W	DA59-00118C	220V, 310W
8	COVER-EVAP RE ASSY	DA63-00396A	240V	DA63-00396A	240V	DA63-00396B	220V/50, 60Hz
8-1	MOTOR-FAN	DA31-00002P	235V/50Hz/2550RPM	DA31-00002P	235V/50Hz/2550RPM	DA31-00002U	220V/50,60Hz/2550RPM
8-2	GEARD-MOTOR	DA31-10107C	M2LA49Z, 220V	DA31-10107C	M2LA49Z, 220V	DA31-10107C	M2LA49Z, 220V
9	PBA-SUE	DA41-00013A	240V	DA41-00013A	240V	DA41-00013A	240V
10	Lamp Incandescent	4713-001140	240V/25W	4713-001140	240V/25W	4713-001140	240V/25W

NO	ITEM	127V/60Hz					
		CODE-NO	SPEC.	CODE-NO	SPEC.	CODE-NO	SPEC.
1	THERAFLUOROETHANE	DA02-40030A	R-134a				
2	COMPRESSOR	DA59-00169A	DK172P-L2U				
3	PROTECTOR-O/L	DA34-10004H	4TM435PHBYY-53				
4	C-OIL	2501-001045	12uF, 250V				
5	RELAY-PTC	DA35-10013N	J531Q33E100M200-2				
6	DC-TRANS	DA26-00003B	127V/50, 60Hz				
7	EVAP-ASSY	DA59-00118E	127V, 310W				
8	COVER-EVAP RE ASSY	DA63-00396C	127V/60Hz				
8-1	MOTOR-FAN	DA31-00002V	127V/60Hz/2550RPM				
8-2	GEARD-MOTOR	DA31-10107B	JX71MLBA6, 110V				
9	PBA-SUE	DA41-20160B	127V				
10	Lamp Incandescent	4713-001141	130V/25W				

MEMO

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Refrigerator Division 2000. 02
Printed in Korea
Code No : DA68-00535A